

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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TestAmerica Job ID: 160-16964-1

Client Project/Site: Westlake Landfill Phase 1D Investigation

For:

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Authorized for release by:

5/26/2016 10:27:17 AM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Job ID: 160-16964-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Engineering Management Support, Inc.

Project: Westlake Landfill Phase 1D Investigation

Report Number: 160-16964-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 4/15/2016 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 9.3° C, 9.6° C and 10.0° C.

TOTAL METALS (ICP)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 04/23/2016 and analyzed on 04/26/2016, 04/27/2016 and 05/10/2016.

Sample AC-16 19-20 (160-16964-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Job ID: 160-16964-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

TCLP METALS (ICP)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Method 1311/6010C. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/26/2016 and analyzed on 05/13/2016 and 05/18/2016.

The CCV recovered high for barium. The only associated samples were the method blank and LCS which were both within acceptable QC criteria indicating no adverse affect. (CCV 160-251001/126)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICPMS)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A. The samples were prepared on 04/19/2016 and analyzed on 05/11/2016.

Analytical Batch 160-250405

The following samples were diluted to bring the concentration of target analytes within the calibration range: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11), AC-3 14-19 (160-16964-12), (160-16964-H-12-C MS), (160-16964-H-12-D MSD) and (160-16964-H-12-B SD). Elevated reporting limits (RLs) are provided.

Iron was detected in method blank MB 160-246810/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged.

Due to the high concentration of aluminum, calcium, iron, magnesium, and manganese, the matrix spike / matrix spike duplicate (MS/MSD) could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

The matrix spike and/or matrix spike duplicate (MS/MSD) recoveries were outside control limits for potassium and barium. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The matrix spike / matrix spike duplicate (MS/MSD) recovery and precision for copper, lead, antimony, and zinc was outside control limits, indicating a matrix interference. The sample was a non-homogeneous mixture of soil and rock. The LCS was within acceptable limits.

Due to linear range check (LRC) failures, the linear range for beryllium has been lowered to the concentration of the highest calibration standard (200ppb). The MS and MSD were above the linear range, but were within acceptable limits.

Analytical Batch 160-250727

The following samples were diluted to bring the concentration of target analytes within the calibration range: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11), AC-3 14-19 (160-16964-12), (160-16964-H-12-C MS), (160-16964-H-12-D MSD) and (160-16964-H-12-B SD). Elevated reporting limits (RLs) are provided.

The continuing calibration verification (CCV) recovered above the upper control limit for niobium and tantalum. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data has been reported. The following sample is impacted: (CCV 160-250727/38).

The matrix spike/matrix spike duplicate (MS/MSD) recovery and precision exceeded control limits for the following analyte: tantalum. Note that this analyte is a known poor performer when analyzed using this method.

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Project/Site: Westlake Landfill Phase 1D Investigation

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Laboratory: TestAmerica St. Louis (Continued)

Analytical Batch 160-250735

The following samples were diluted to bring the concentration of target analytes within the calibration range: AC-3 36-39 (160-16964-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

MERCURY

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for mercury in accordance with EPA SW-846 Method 7471B. The samples were prepared and analyzed on 04/20/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

ALKALINITY

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Alkalinity in accordance with EPA Method 310.1. The samples were prepared on 04/26/2016 and analyzed on 04/28/2016.

The matrix spike (MS) recovery for Alkalinity and Bicarbonate Alkalinity was outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PH

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for pH in accordance with EPA SW-846 Method 9045D. The samples were prepared on 04/20/2016 and analyzed on 04/21/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

ANIONS, ION CHROMATOGRAPHY

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Anions, Ion Chromatography in accordance with EPA SW-846 Method 9056A. The samples were prepared on 05/11/2016 and analyzed on 05/14/2016.

The following samples were diluted to bring the concentrations of Sulfate within the calibration range in Anion batch 160-250998: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 04/19/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GAMMA SPECTROSCOPY (CESIUM) - TCLP

Case Narrative

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Job ID: 160-16964-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Gamma Spectroscopy (Cesium) - TCLP in accordance with EPA 901.1. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/22/2016 and analyzed on 04/24/2016 and 04/25/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

CESIUM 137 & OTHER GAMMA EMITTERS

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Cesium 137 & Other Gamma Emitters in accordance with EPA 901.1. The samples were dried on 04/18/2016, and prepared and analyzed on 04/19/2016.

The reporting limit for cesium-137 (0.200 pCi/g) was not met. This is caused by the elevated Compton background due to elevated activity of Ra-226 daughters (Pb-214, Bi-214). The data is reported with the MDC achieved. AC-21 20-24 (160-16964-5), AC-16 19-20 (160-16964-8) and AC-3 9-10 (160-16964-11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM 226 (21 DAY INGROWTH) - TCLP

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Radium 226 (21 day ingrowth) - TCLP in accordance with EPA 903.0. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/21/2016 and 04/25/2016 and analyzed on 05/13/2016 and 05/17/2016.

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5) and AC-13 4-6 (160-16964-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)-21 DAY INGROWTH

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Radium-226 (GFPC)-21 day ingrowth in accordance with EPA 903. The samples were dried on 04/18/2016, prepared on 04/19/2016 and analyzed on 05/12/2016 and 05/13/2016.

The following sample has a barium carrier recovery above the 110% QC limit; (160-16964-A-11-D; 122%). Samples had native barium present, a correction was applied bringing the recovery down from approximately 200%. The LCS(laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11), AC-3 14-19 (160-16964-12), (LCS 160-246855/2-A), (MB 160-246855/1-A) and (160-16964-A-5-P DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228 (GFPC) - TCLP

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Radium-228 (GFPC) - TCLP in

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accordance with EPA 904.0. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/21/2016 and 04/25/2016 and analyzed on 05/01/2016 and 05/03/2016.

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5) and AC-13 4-6 (160-16964-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows:

Samples were re-prepared as follows: Precipitate on planchette was re-dissolved with EDTA, moved to a centrifuge tube, added standardized yttrium carrier and lead carrier. Samples were placed into a "re-ingrowth" period of at least 36 hours. This is to ensure proper separation of the yttrium oxalate and the barium sulfate which was believed to not have fully separated causing a high radium-228 spike recovery. New T1 times were recorded for the actinium-228, but not for the radium-226. Original T1 time will be used for the radium-226 portion as recorded in TALS. AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228 (GFPC)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Radium-228 (GFPC) in accordance with EPA Method 904.0. The samples were dried on 04/18/2016, prepared on 04/19/2016 and analyzed on 05/05/2016.

The barium carrier recovery is outside the upper control limit (110%) for the following samples: AC-16 19-20 (160-16964-8) and AC-3 9-10 (160-16964-11). The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

The following sample has a barium carrier recovery above the 110% QC limit; (160-16964-A-11-F; 122%). Samples had native barium present, a correction was applied bringing the recovery down from approximately 200%. The LCS(laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ISOTOPIC THORIUM (ALPHA SPECTROMETRY) - TCLP

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Isotopic Thorium (Alpha Spectrometry) - TCLP in accordance with A01-R_Th. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/29/2016 and analyzed on 05/09/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE A01R_Th. The samples were dried on 04/18/2016, prepared on 04/22/2016 and analyzed on 05/09/2016 and 05/11/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

ISOTOPIC URANIUM (ALPHA SPECTROMETRY) - TCLP

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9),

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Job ID: 160-16964-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Isotopic Uranium (Alpha Spectrometry) - TCLP in accordance with A-01-R U. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 04/29/2016 and analyzed on 05/05/2016, 05/06/2016 and 05/10/2016.

The U-232 tracer recovery for the following samples was low outside the QC limits of 30%: AC-21 20-24 (160-16964-5) and AC-16 19-20 (160-16964-8). The laboratory allows for reporting results as quantitative when tracer recoveries are below 30% if a) the relative uncertainty associated with the tracer recovery is less than 10% (2 sigma), b) spectral resolution requirements are met and there are no indications of spectral interferences, and c) detection limit requirements are met. All three of these criteria are met for these samples: a) a minimum of 400 counts (which leads to 10% count uncertainty at 2 sigma) in the tracer peak, b) resolution of < 100 keV is met for all peaks, and c) the activity in the sample is well above the MDC.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were dried on 04/18/2016, prepared on 04/22/2016 and analyzed on 05/05/2016 and 05/06/2016.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LEAD-210 (LSC) - TCLP

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Pb 210 - TCLP in accordance with LSC_Pb210. The samples were leached on 04/19/2016 and 04/20/2016, prepared on 05/09/2016 and analyzed on 05/16/2016 and 05/17/2016.

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead.

The following samples counted off the upper end of the quench curve parameter (tSIE): AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11), AC-3 14-19 (160-16964-12), (LCS 160-250211/2-A), (LCSD 160-250211/3-A) and (MB 160-250211/1-A). A small amount (10 uL) of quenching agent (nitromethane) was added to the affected vials and recounted. The recount results were within the quench curve parameter and are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LEAD-210 (LSC)

Samples AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11) and AC-3 14-19 (160-16964-12) were analyzed for Lead-210 (LSC) in accordance with LSC_Pb210. The samples were prepared on 04/22/2016 and analyzed on 04/30/2016, 05/04/2016 and 05/05/2016.

The following samples were non-homogenous due to being analyzed as received: AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-15 29-30 (160-16964-3), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9), AC-1 19-20 (160-16964-10), AC-3 9-10 (160-16964-11), AC-3 14-19 (160-16964-12) and (160-16964-A-1 DU).

Case Narrative

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Job ID: 160-16964-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following samples counted off the upper end of the quench curve parameter (tSIE): AC-16 11-14 (160-16964-1), AC-16 11-14 DUP (160-16964-2), AC-8 4-10 (160-16964-4), AC-21 20-24 (160-16964-5), AC-13 4-6 (160-16964-6), AC-10 12-13 (160-16964-7), AC-16 19-20 (160-16964-8), AC-3 36-39 (160-16964-9) and AC-1 19-20 (160-16964-10). A small amount (10 uL) of quenching agent (nitromethane) was added to the affected vials and recounted. The recount results were within the quench curve parameter and are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Chain of Custody Record

13715 Bidar Trail North

137 13 River Main Ranch
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 2

1 2 3 4 5 6 7 8 9 10 11 12 13

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| | | | | | |
|--|--|--|--|---|--|
| Client Information (Sub Contract Lab) | | Sampler: | Lab P.M.: Gish, Erika K | Carrier Tracking No(s): | COC No: 160-82420-1 |
| Client Contact: Shipping/Receiving | | Phone: | E-Mail: erika.gish@testamericainc.com | Page: | Page 1 of 2 |
| Analysis Requested | | | | | |
| Company: TestAmerica Laboratories, Inc | | Address: 4625 East Cotton Ctr Blvd, Suite 189, | Due Date Requested: 4/27/2016 | TAT Requested (days): | Job #: 160-16964-1 |
| City: Phoenix | | State, ZIP: AZ, 85040 | PO #: | WO #: | Preservation Codes: |
| Phone: | | Project Name: Westlake Landfill Phase 1D Investigation | Site: | SSOW#: | A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonium H - Ascorbic Acid I - ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - Ash/NaO2 P - NaO4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP/borehole U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other: |
| Field Filtered Sample (Yes or No) | | | | | |
| Perform MS/MSD (Yes or No) | | | | | |
| 6010B/3050B (MOD) Single Metal | | | | | |
| Sample Identification - Client ID (Lab ID) | | Sample Date | Sample Time | Matrix (W=water, S=solid, O=water/soil, G=grab) | Total Number of containers |
| | | | | Preservation Code: | Special Instructions/Note: |
| AC-16 11-14 (160-16964-1) | | 4/14/16 | 11:15 Central 08:45 | Solid | X |
| AC-16 11-14 DUP (160-16964-2) | | 4/15/16 | 10:45 Central | Solid | X |
| AC-15 29-30 (160-16964-3) | | 4/14/16 | 09:45 Central | Solid | X |
| AC-8 4-10 (160-16964-4) | | 4/14/16 | 09:30 Central | Solid | X |
| AC-21 20-24 (160-16964-5) | | 4/14/16 | 10:00 Central | Solid | X |
| AC-13 4-6 (160-16964-6) | | 4/15/16 | 10:30 Central | Solid | X |
| AC-10 12-13 (160-16964-7) | | 4/15/16 | 11:00 Central | Solid | X |
| AC-16 19-20 (160-16964-8) | | 4/15/16 | 13:30 Central | Solid | X |
| AC-3 36-39 (160-16964-9) | | 4/15/16 | 13:45 Central | Solid | X |
| AC-1 19-20 (160-16964-10) | | 4/15/16 | 14:30 Central | Solid | X |
| AC-3 9-10 (160-16964-11) | | 4/15/16 | Central | | 1 |
| Possible Hazard Identification | | | | | |
| Level 1 radioactive, Level 2 radioactive | | | | | |
| Deliverable Requested: I, II, III, IV, Other (specify) | | | | | |
| Empty Kit Relinquished by: | | Date: | Time: | Method of Shipment: | |
| Relinquished by: <i>J. M. Gish</i> | | 4/20/16 | 1700 | Received by: | Date/Time: |
| Relinquished by: | | Date/Time: | Company: | Received by: | Date/Time: |
| Relinquished by: | | Date/Time: | Company: | Received by: | Date/Time: |
| Custody Seals Intact: △ Yes △ No | | Colder Temperature(s) °C and Other Remarks: <i>2.3</i> °R ice | | | |

1 2 3 4 5 6 7 8 9 10 11 12 13

TestAmerica St. Louis
 13717 Rider Trail North
 Earth City, MO 63045
 Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

| | | | | | | | |
|--|--|--|--|--|---|-----------------------------------|--|
| Client Information (Sub Contract Lab) | | Sampler: | Lab P/M: Gish, Enika K | Carrier Tracking No(s): | Job #: | | |
| | | Phone: | E-Mail: enika.gish@testamericainc.com | 160-16964-1 | | | |
| Company: TestAmerica Laboratories, Inc. | | Analysis Requested | | | | | |
| Address: 4625 East Colton Ctr Blvd, Suite 189, | | Due Date Requested: 4/27/2016 | TAT Requested (days): Phoenix State, Zip: AZ, 85040 Phone: 602-437-3340(Tel) 602-454-9303(Fax) Email: Project #: 16005911 Site: SSOW#: | | Preservation Codes: | | |
| | | PO #: | | | A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonium H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: | | |
| Sample Identification - Client ID (Lab ID) | | Sample Date: | Sample Time (C=comp, G=grab) | Sample Type (W=water, S=solid, A=aqueous, O=organic, B=trissic, A=air) | Matrix (W=water, S=solid, A=aqueous, O=organic) | Field Filtered Sample (Yes or No) | M - Hexane N - None O - AshNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydride U - Acetone V - MCAA W - ph 4-5 Z - other (specify) |
| | | AC-3 14-19 (160-16964-12) | 4/15/16 | 14:45 | Solid | X | Perform MS/MSD (Yes or No) |
| | | 6010B/3050B (MOD) Single Metal | | | | Total Number of containers: 1 | |
| Possible Hazard Identification | | Special Instructions/OC Requirements: | | | | | |
| Level 1 radioactive, Level 2 radioactive | | <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months | | | | | |
| Deliverable Requested: I, II, III, IV, Other (specify) | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | | | | | |
| Empty Kit Relinquished by: | | Date: | Time: | Method of Shipment: | | | |
| Relinquished by: <i>Jill Clark</i> | | Date/Time: 4/20/16 1700 | Company: TH STR | Received By: | Date/Time: | Company | Company |
| Relinquished by: | | Date/Time: | Company | Received by: | Date/Time: | Company | Company |
| Custody Seals intact: Δ Yes Δ No | | Cooler Temperature(s) °C and Other Remarks: <i>(2.3) -on rec</i> | | | | | |

-C.S. ✓

Login Sample Receipt Checklist

Client: Engineering Management Support, Inc.

Job Number: 160-16964-1

Login Number: 16964

List Number: 1

Creator: Daniels, Brian J

List Source: TestAmerica St. Louis

Question

Answer

Comment

| | | |
|--|-------|--|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | False | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

Login Sample Receipt Checklist

Client: Engineering Management Support, Inc.

Job Number: 160-16964-1

Login Number: 16964

List Number: 2

Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

List Creation: 04/22/16 10:00 AM

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | Check done at department level as required. |

Definitions/Glossary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Qualifiers

HPLC/IC

| Qualifier | Qualifier Description |
|-----------|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| B | Compound was found in the blank and sample. |
| ^ | ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits. |
| F1 | MS and/or MSD Recovery is outside acceptance limits. |
| F2 | MS/MSD RPD exceeds control limits |
| 4 | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |
| E | Result exceeded calibration range. |
| D | Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples. |

General Chemistry

| Qualifier | Qualifier Description |
|-----------|--|
| F1 | MS and/or MSD Recovery is outside acceptance limits. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

Rad

| Qualifier | Qualifier Description |
|-----------|---|
| U | Result is less than the sample detection limit. |
| X | Carrier is outside acceptance limits. |
| X | Tracer is outside acceptance limits. |

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

| | |
|----------------|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

Method Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

| Method | Method Description | Protocol | Laboratory |
|------------|--|----------|------------|
| 9056A | Anions, Ion Chromatography | SW846 | TAL SL |
| 6010B | Metals (ICP) | SW846 | TAL PHX |
| 6010C | Metals (ICP) | SW846 | TAL SL |
| 6020A | Metals (ICP/MS) | SW846 | TAL SL |
| 7471B | Mercury (CVAA) | SW846 | TAL SL |
| 310.1 | Alkalinity | MCAWW | TAL SL |
| 9045D | pH | SW846 | TAL SL |
| Moisture | Percent Moisture | EPA | TAL SL |
| 901.1 | Cesium 137 & Other Gamma Emitters (GS) | EPA | TAL SL |
| 903.0 | Radium-226 (GFPC) | EPA | TAL SL |
| 904.0 | Radium-228 (GFPC) | EPA | TAL SL |
| A-01-R | Isotopic Uranium (Alpha Spectrometry) | DOE | TAL SL |
| A-01-R | Isotopic Thorium (Alpha Spectrometry) | DOE | TAL SL |
| ST-RC-0211 | Lead-210 (LSC) | TAL-STL | TAL SL |

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| 160-16964-1 | AC-16 11-14 | Solid | 04/14/16 11:15 | 04/15/16 15:30 |
| 160-16964-2 | AC-16 11-14 DUP | Solid | 04/15/16 08:45 | 04/15/16 15:30 |
| 160-16964-3 | AC-15 29-30 | Solid | 04/14/16 10:45 | 04/15/16 15:30 |
| 160-16964-4 | AC-8 4-10 | Solid | 04/14/16 09:45 | 04/15/16 15:30 |
| 160-16964-5 | AC-21 20-24 | Solid | 04/14/16 09:30 | 04/15/16 15:30 |
| 160-16964-6 | AC-13 4-6 | Solid | 04/15/16 10:00 | 04/15/16 15:30 |
| 160-16964-7 | AC-10 12-13 | Solid | 04/15/16 10:30 | 04/15/16 15:30 |
| 160-16964-8 | AC-16 19-20 | Solid | 04/15/16 11:00 | 04/15/16 15:30 |
| 160-16964-9 | AC-3 36-39 | Solid | 04/15/16 13:30 | 04/15/16 15:30 |
| 160-16964-10 | AC-1 19-20 | Solid | 04/15/16 13:45 | 04/15/16 15:30 |
| 160-16964-11 | AC-3 9-10 | Solid | 04/15/16 14:30 | 04/15/16 15:30 |
| 160-16964-12 | AC-3 14-19 | Solid | 04/15/16 14:45 | 04/15/16 15:30 |

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TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14

Lab Sample ID: 160-16964-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil | Fac | D | Method | Prep Type |
|--------------|---------|-----------|--------|--------|-------|-----|-----|-------|----------|-----------|
| Fluoride | 1.5 | | 1.2 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA | 1 |
| Sulfate - DL | 1700 | | 120 | 12 | mg/Kg | 20 | ⊗ | 9056A | Total/NA | 2 |
| Scandium | 2.5 J | | 6.2 | 0.57 | mg/Kg | 1 | ⊗ | 6010B | Total/NA | 3 |
| Barium | 0.95 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP | 4 |
| Aluminum | 10000 | | 30 | 10 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 5 |
| Antimony | 2.6 J | | 3.0 | 0.39 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 6 |
| Arsenic | 19 | | 6.0 | 1.6 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 7 |
| Barium | 210 | | 12 | 0.57 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 8 |
| Beryllium | 0.81 | | 0.60 | 0.16 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 9 |
| Cadmium | 2.3 | | 0.30 | 0.096 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 10 |
| Calcium | 49000 | | 300 | 35 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 11 |
| Chromium | 19 | | 6.0 | 2.7 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 12 |
| Cobalt | 15 | | 1.2 | 0.26 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 13 |
| Copper | 1800 | | 6.0 | 0.61 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 14 |
| Iron | 21000 B | | 30 | 20 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 15 |
| Lead | 120 | | 1.8 | 0.60 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 16 |
| Magnesium | 8700 | | 300 | 23 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 17 |
| Manganese | 1200 | | 3.0 | 0.46 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 18 |
| Nickel | 44 | | 3.0 | 0.64 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 19 |
| Potassium | 1400 | | 60 | 18 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 20 |
| Selenium | 3.3 | | 3.0 | 0.95 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 21 |
| Silver | 0.36 J | | 1.2 | 0.14 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 22 |
| Sodium | 210 | | 120 | 40 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 23 |
| Vanadium | 27 | | 6.0 | 4.4 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 24 |
| Zinc | 190 | | 30 | 8.0 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 25 |
| Mercury | 0.035 J | | 0.040 | 0.013 | mg/Kg | 1 | ⊗ | 7471B | Total/NA | 26 |
| pH | 7.63 | | 0.0999 | 0.0999 | SU | 1 | | 9045D | Total/NA | 27 |

Client Sample ID: AC-16 11-14 DUP

Lab Sample ID: 160-16964-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil | Fac | D | Method | Prep Type |
|--------------|---------|-----------|------|--------|-------|-----|-----|-------|----------|-----------|
| Fluoride | 1.5 | | 1.2 | 0.17 | mg/Kg | 1 | ⊗ | 9056A | Total/NA | 1 |
| Sulfate - DL | 1900 | | 120 | 12 | mg/Kg | 20 | ⊗ | 9056A | Total/NA | 2 |
| Scandium | 2.4 J | | 5.9 | 0.55 | mg/Kg | 1 | ⊗ | 6010B | Total/NA | 3 |
| Barium | 1.0 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP | 4 |
| Aluminum | 11000 | | 27 | 9.0 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 5 |
| Antimony | 0.52 J | | 2.7 | 0.35 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 6 |
| Arsenic | 15 | | 5.4 | 1.4 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 7 |
| Barium | 310 | | 11 | 0.51 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 8 |
| Beryllium | 0.84 | | 0.54 | 0.14 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 9 |
| Cadmium | 1.1 | | 0.27 | 0.086 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 10 |
| Calcium | 16000 | | 270 | 31 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 11 |
| Chromium | 17 | | 5.4 | 2.4 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 12 |
| Cobalt | 12 | | 1.1 | 0.23 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 13 |
| Copper | 1600 | | 5.4 | 0.54 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 14 |
| Iron | 21000 B | | 27 | 18 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 15 |
| Lead | 110 | | 1.6 | 0.54 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 16 |
| Magnesium | 7300 | | 270 | 20 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 17 |
| Manganese | 760 | | 2.7 | 0.41 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 18 |
| Nickel | 34 | | 2.7 | 0.58 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | 19 |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14 DUP (Continued)

Lab Sample ID: 160-16964-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Potassium | 1800 | | 54 | 16 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Selenium | 1.9 | J | 2.7 | 0.85 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Silver | 0.27 | J | 1.1 | 0.13 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Sodium | 220 | | 110 | 36 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Vanadium | 30 | | 5.4 | 4.0 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Zinc | 220 | | 27 | 7.2 | mg/Kg | 10 | ⊗ | 6020A | Total/NA |
| Mercury | 0.037 | | 0.037 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| pH | 7.75 | | 0.0998 | 0.0998 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-15 29-30

Lab Sample ID: 160-16964-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------|--------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Fluoride | 0.61 | J | 1.2 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 270 | | 31 | 3.1 | mg/Kg | 5 | ⊗ | 9056A | Total/NA |
| Scandium | 0.82 | J | 6.1 | 0.56 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.71 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 2800 | | 13 | 4.5 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Arsenic | 3.0 | | 2.7 | 0.69 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Barium | 88 | | 5.3 | 0.25 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Beryllium | 0.21 | J | 0.27 | 0.069 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Cadmium | 0.13 | | 0.13 | 0.043 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Calcium | 11000 | | 130 | 16 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Chromium | 7.0 | | 2.7 | 1.2 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Cobalt | 4.5 | | 0.53 | 0.11 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Copper | 12 | | 2.7 | 0.27 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Iron | 9000 | B | 13 | 8.8 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Lead | 7.3 | | 0.80 | 0.27 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Magnesium | 4700 | | 130 | 10 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Manganese | 160 | | 1.3 | 0.21 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Nickel | 13 | | 1.3 | 0.29 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Potassium | 530 | | 27 | 8.0 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Selenium | 1.3 | | 1.3 | 0.42 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Silver | 0.066 | J | 0.53 | 0.064 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Sodium | 89 | | 53 | 18 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Vanadium | 11 | | 2.7 | 2.0 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Zinc | 66 | | 13 | 3.6 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| pH | 7.90 | | 0.0998 | 0.0998 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-8 4-10

Lab Sample ID: 160-16964-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------|--------|-----------|------|--------|-------|---------|---|--------|-----------|
| Fluoride | 4.1 | | 1.2 | 0.17 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 2500 | | 120 | 12 | mg/Kg | 20 | ⊗ | 9056A | Total/NA |
| Scandium | 1.5 | J | 5.8 | 0.54 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.23 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 4700 | | 140 | 47 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Barium | 110 | | 56 | 2.6 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cadmium | 0.87 | J | 1.4 | 0.45 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Calcium | 270000 | | 1400 | 160 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cobalt | 4.9 | J | 5.6 | 1.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-8 4-10 (Continued)

Lab Sample ID: 160-16964-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil | Fac | D | Method | Prep Type |
|-----------|--------|-----------|-------|-------|-------|-----|-----|-------|----------|-----------|
| Copper | 11 | J | 28 | 2.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Iron | 13000 | B | 140 | 92 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Lead | 27 | | 8.4 | 2.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Magnesium | 46000 | | 1400 | 110 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Manganese | 400 | | 14 | 2.1 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Nickel | 12 | J | 14 | 3.0 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Potassium | 700 | | 280 | 84 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Zinc | 70 | J | 140 | 37 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |
| Mercury | 0.096 | | 0.035 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA | |
| pH | 7.45 | | 0.100 | 0.100 | SU | 1 | | 9045D | Total/NA | |

Client Sample ID: AC-21 20-24

Lab Sample ID: 160-16964-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil | Fac | D | Method | Prep Type |
|--------------|--------|-----------|--------|--------|-------|-----|-----|-------|----------|-----------|
| Fluoride | 11 | | 1.2 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA | |
| Sulfate - DL | 3500 | | 310 | 31 | mg/Kg | 50 | ⊗ | 9056A | Total/NA | |
| Scandium | 2.9 | J | 6.1 | 0.57 | mg/Kg | 1 | ⊗ | 6010B | Total/NA | |
| Barium | 0.57 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP | |
| Aluminum | 6400 | | 29 | 9.8 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Antimony | 0.77 | J | 2.9 | 0.38 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Arsenic | 20 | | 5.9 | 1.5 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Barium | 1600 | | 12 | 0.55 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Beryllium | 0.55 | J | 0.59 | 0.15 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Cadmium | 1.5 | | 0.29 | 0.094 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Calcium | 52000 | | 290 | 34 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Chromium | 26 | | 5.9 | 2.7 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Cobalt | 230 | | 1.2 | 0.25 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Copper | 170 | | 5.9 | 0.59 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Iron | 26000 | B | 29 | 19 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Lead | 150 | | 1.8 | 0.59 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Magnesium | 14000 | | 290 | 22 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Manganese | 500 | | 2.9 | 0.45 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Nickel | 320 | | 2.9 | 0.63 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Potassium | 960 | | 59 | 18 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Selenium | 18 | | 2.9 | 0.93 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Silver | 0.92 | J | 1.2 | 0.14 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Sodium | 250 | | 120 | 39 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Vanadium | 79 | | 5.9 | 4.3 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Zinc | 220 | | 29 | 7.8 | mg/Kg | 10 | ⊗ | 6020A | Total/NA | |
| Mercury | 0.38 | | 0.036 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA | |
| pH | 7.66 | | 0.0999 | 0.0999 | SU | 1 | | 9045D | Total/NA | |

Client Sample ID: AC-13 4-6

Lab Sample ID: 160-16964-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil | Fac | D | Method | Prep Type |
|--------------|--------|-----------|------|--------|-------|-----|-----|-------|----------|-----------|
| Fluoride | 20 | | 1.2 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA | |
| Sulfate - DL | 340 | | 31 | 3.1 | mg/Kg | 5 | ⊗ | 9056A | Total/NA | |
| Scandium | 0.74 | J | 6.1 | 0.57 | mg/Kg | 1 | ⊗ | 6010B | Total/NA | |
| Barium | 0.70 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP | |
| Aluminum | 4300 | | 140 | 48 | mg/Kg | 50 | ⊗ | 6020A | Total/NA | |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-13 4-6 (Continued)

Lab Sample ID: 160-16964-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Barium | 77 | | 57 | 2.7 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cadmium | 0.72 J | | 1.4 | 0.46 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Calcium | 410000 | | 1400 | 170 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Chromium | 18 J | | 28 | 13 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cobalt | 3.5 J | | 5.7 | 1.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Copper | 44 | | 28 | 2.9 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Iron | 8500 B | | 140 | 94 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Lead | 32 | | 8.5 | 2.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Magnesium | 18000 | | 1400 | 110 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Manganese | 260 | | 14 | 2.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Nickel | 21 | | 14 | 3.0 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Potassium | 970 | | 280 | 85 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Zinc | 73 J | | 140 | 38 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Mercury | 0.012 J | | 0.036 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| Carbonate Alkalinity as CaCO ₃ | 49 J | | 61 | 6.6 | mg/Kg | 1 | ⊗ | 310.1 | Total/NA |
| pH | 8.26 | | 0.0999 | 0.0999 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-10 12-13

Lab Sample ID: 160-16964-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------|---------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Fluoride | 2.9 | | 1.3 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 1600 | | 130 | 13 | mg/Kg | 20 | ⊗ | 9056A | Total/NA |
| Scandium | 1.7 J | | 6.4 | 0.60 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.26 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 4800 | | 140 | 47 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Arsenic | 15 J | | 28 | 7.3 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Barium | 94 | | 56 | 2.6 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cadmium | 1.9 | | 1.4 | 0.45 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Calcium | 290000 | | 1400 | 160 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Chromium | 22 J | | 28 | 13 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cobalt | 9.6 | | 5.6 | 1.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Copper | 26 J | | 28 | 2.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Iron | 21000 B | | 140 | 93 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Lead | 63 | | 8.4 | 2.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Magnesium | 21000 | | 1400 | 110 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Manganese | 380 | | 14 | 2.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Nickel | 31 | | 14 | 3.0 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Potassium | 1000 | | 280 | 84 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Sodium | 200 J | | 560 | 190 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Zinc | 160 | | 140 | 37 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Mercury | 0.071 | | 0.038 | 0.013 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| pH | 7.64 | | 0.0998 | 0.0998 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-16 19-20

Lab Sample ID: 160-16964-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---------------|---------|-----------|------|--------|-------|---------|---|--------|-----------|
| Fluoride | 12 | | 1.4 | 0.20 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 6700 | | 680 | 68 | mg/Kg | 100 | ⊗ | 9056A | Total/NA |
| Scandium - DL | 9.9 J D | | 69 | 6.4 | mg/Kg | 10 | ⊗ | 6010B | Total/NA |
| Barium | 0.54 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 19-20 (Continued)

Lab Sample ID: 160-16964-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|-------|-------|-------|---------|---|--------|-----------|
| Aluminum | 13000 | | 160 | 53 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Arsenic | 200 | | 32 | 8.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Barium | 6500 | | 63 | 3.0 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Beryllium | 2.1 | J | 3.2 | 0.82 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cadmium | 9.5 | | 1.6 | 0.50 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Calcium | 30000 | | 1600 | 180 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Chromium | 79 | | 32 | 14 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cobalt | 1400 | | 6.3 | 1.4 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Copper | 4500 | | 32 | 3.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Iron | 210000 | B | 160 | 100 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Lead | 520 | | 9.5 | 3.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Magnesium | 10000 | | 1600 | 120 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Manganese | 2400 | | 16 | 2.4 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Nickel | 1700 | | 16 | 3.4 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Potassium | 780 | | 320 | 95 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Selenium | 110 | | 16 | 5.0 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Silver | 2.0 | J | 6.3 | 0.76 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Sodium | 440 | J | 630 | 210 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Vanadium | 710 | | 32 | 23 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Zinc | 860 | | 160 | 42 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Mercury | 0.22 | | 0.042 | 0.014 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| pH | 7.11 | | 0.100 | 0.100 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-3 36-39

Lab Sample ID: 160-16964-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|--------|-----------|-------|--------|-------|---------|---|--------|-----------|
| Fluoride | 1.4 | J | 2.6 | 0.38 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 1500 | | 66 | 6.6 | mg/Kg | 5 | ⊗ | 9056A | Total/NA |
| Scandium | 1.4 | J | 13 | 1.2 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.86 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 11000 | | 110 | 38 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Antimony | 4.4 | J | 11 | 1.5 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Arsenic | 21 | J | 23 | 5.9 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Barium | 200 | | 46 | 2.1 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Cadmium | 5.6 | | 1.1 | 0.37 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Calcium | 16000 | | 1100 | 130 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Chromium | 50 | | 23 | 10 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Cobalt | 11 | | 4.6 | 0.98 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Copper | 280 | | 23 | 2.3 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Iron | 86000 | B | 110 | 75 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Lead | 870 | | 6.8 | 2.3 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Magnesium | 4000 | | 1100 | 87 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Manganese | 12000 | | 11 | 1.8 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Nickel | 39 | | 11 | 2.4 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Potassium | 2300 | | 230 | 68 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Silver | 3.4 | J | 4.6 | 0.55 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Sodium | 2300 | | 460 | 150 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Zinc | 26000 | | 290 | 76 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Mercury | 0.55 | | 0.083 | 0.028 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| Carbonate Alkalinity as CaCO ₃ | 260 | | 130 | 14 | mg/Kg | 1 | ⊗ | 310.1 | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 36-39 (Continued)

Lab Sample ID: 160-16964-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---------|--------|-----------|--------|--------|------|---------|---|--------|-----------|
| pH | 8.05 | | 0.0999 | 0.0999 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-1 19-20

Lab Sample ID: 160-16964-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------|---------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Fluoride | 3.2 | | 1.3 | 0.19 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 1200 | | 34 | 3.4 | mg/Kg | 5 | ⊗ | 9056A | Total/NA |
| Scandium | 1.6 J | | 6.7 | 0.62 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.75 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 6500 | | 58 | 19 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Arsenic | 21 | | 12 | 3.0 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Barium | 830 | | 23 | 1.1 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Beryllium | 0.82 J | | 1.2 | 0.30 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Cadmium | 1.1 | | 0.58 | 0.18 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Calcium | 140000 | | 580 | 67 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Chromium | 30 | | 12 | 5.2 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Cobalt | 24 | | 2.3 | 0.50 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Copper | 44 | | 12 | 1.2 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Iron | 38000 B | | 58 | 38 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Lead | 53 | | 3.5 | 1.2 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Magnesium | 20000 | | 580 | 44 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Manganese | 350 | | 5.8 | 0.89 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Nickel | 71 | | 5.8 | 1.2 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Potassium | 1800 | | 120 | 35 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Selenium | 4.1 J | | 5.8 | 1.8 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Silver | 0.34 J | | 2.3 | 0.28 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Sodium | 1300 | | 230 | 77 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Vanadium | 11 J | | 12 | 8.5 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Zinc | 140 | | 58 | 15 | mg/Kg | 20 | ⊗ | 6020A | Total/NA |
| Mercury | 0.042 | | 0.039 | 0.013 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| pH | 7.75 | | 0.0999 | 0.0999 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-3 9-10

Lab Sample ID: 160-16964-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------|---------|-----------|------|--------|-------|---------|---|--------|-----------|
| Fluoride | 3.5 | | 1.2 | 0.17 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 1200 | | 30 | 3.0 | mg/Kg | 5 | ⊗ | 9056A | Total/NA |
| Scandium | 0.95 J | | 5.8 | 0.54 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 0.87 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 5300 | | 140 | 45 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Antimony | 2.5 J | | 14 | 1.8 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Arsenic | 7.2 J | | 27 | 7.1 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Barium | 8100 | | 54 | 2.6 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cadmium | 3.6 | | 1.4 | 0.43 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Calcium | 270000 | | 1400 | 160 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Chromium | 66 | | 27 | 12 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Cobalt | 19 | | 5.4 | 1.2 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Copper | 780 | | 27 | 2.7 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Iron | 12000 B | | 140 | 90 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Lead | 410 | | 8.2 | 2.7 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Detection Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 9-10 (Continued)

Lab Sample ID: 160-16964-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|--------|--------|-------|---------|---|--------|-----------|
| Magnesium | 32000 | | 1400 | 100 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Manganese | 380 | | 14 | 2.1 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Nickel | 41 | | 14 | 2.9 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Potassium | 1100 | | 270 | 82 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Sodium | 520 J | | 540 | 180 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Zinc | 220 | | 140 | 36 | mg/Kg | 50 | ⊗ | 6020A | Total/NA |
| Mercury | 0.085 | | 0.035 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| pH | 7.81 | | 0.0998 | 0.0998 | SU | 1 | | 9045D | Total/NA |

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|--------------|-----------|-------|--------|-------|---------|---|--------|-----------|
| Fluoride | 1.4 | | 1.2 | 0.18 | mg/Kg | 1 | ⊗ | 9056A | Total/NA |
| Sulfate - DL | 330 | | 31 | 3.1 | mg/Kg | 5 | ⊗ | 9056A | Total/NA |
| Scandium | 2.5 J | | 6.0 | 0.56 | mg/Kg | 1 | ⊗ | 6010B | Total/NA |
| Barium | 1.1 | | 0.13 | 0.0053 | mg/L | 1 | | 6010C | TCLP |
| Aluminum | 5600 | | 15 | 4.9 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Antimony | 0.64 J F2 F1 | | 1.5 | 0.19 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Arsenic | 7.7 | | 2.9 | 0.76 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Barium | 110 F1 | | 5.8 | 0.27 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Beryllium | 0.41 | | 0.29 | 0.076 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Cadmium | 0.28 | | 0.15 | 0.047 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Calcium | 20000 F2 | | 150 | 17 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Chromium | 12 | | 2.9 | 1.3 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Cobalt | 8.5 | | 0.58 | 0.13 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Copper | 38 F2 F1 | | 2.9 | 0.29 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Iron | 12000 B | | 15 | 9.6 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Lead | 40 F2 F1 | | 0.87 | 0.29 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Magnesium | 9200 | | 150 | 11 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Manganese | 520 | | 1.5 | 0.22 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Nickel | 21 | | 1.5 | 0.31 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Potassium | 1600 F1 | | 29 | 8.7 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Selenium | 2.3 | | 1.5 | 0.46 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Sodium | 970 | | 58 | 19 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Vanadium | 17 | | 2.9 | 2.1 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Zinc | 340 F2 F1 | | 15 | 3.9 | mg/Kg | 5 | ⊗ | 6020A | Total/NA |
| Mercury | 0.060 | | 0.037 | 0.012 | mg/Kg | 1 | ⊗ | 7471B | Total/NA |
| Carbonate Alkalinity as CaCO ₃ | 250 | | 62 | 6.7 | mg/Kg | 1 | ⊗ | 310.1 | Total/NA |
| pH | 8.32 | | 0.100 | 0.100 | SU | 1 | | 9045D | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14

Date Collected: 04/14/16 11:15

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-1

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.95 | | 0.13 | 0.0053 | mg/L | D | 04/26/16 11:28 | 05/13/16 22:37 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.63 | | 0.0999 | 0.0999 | SU | D | 04/20/16 23:21 | 04/21/16 19:28 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | |
|---------------------|-------------|---|--------|--------|-------|--------|-------|----------------|----------------|---|
| Actinium-227 | 0.000 | U | 0.723 | 0.723 | 1.65 | 0.782 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Americium-241 | 0.0573 | U | 0.189 | 0.189 | 0.326 | 0.156 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Cesium-137 | -0.00574 | U | 0.107 | 0.107 | 0.141 | 0.0635 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Cobalt-60 | 0.0131 | U | 0.0505 | 0.0505 | 0.178 | 0.0776 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Potassium-40 | 13.3 | | 2.12 | 2.52 | 0.831 | 0.302 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Protactinium-231 | 0.453 | U | 0.610 | 0.612 | 2.74 | 1.26 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Ac-228 | 0.646 | | 0.232 | 0.242 | 0.428 | 0.186 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Br-214 | 1.26 | | 0.242 | 0.275 | 0.149 | 0.0618 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Pb-212 | 0.922 | | 0.170 | 0.208 | 0.166 | 0.0768 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Pb-214 | 1.19 | | 0.200 | 0.235 | 0.188 | 0.0843 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Tl-208 | 0.165 | | 0.0828 | 0.0846 | 0.117 | 0.0517 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------------|-------------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | -0.214 | U | 42.3 | 42.3 | 75.2 | 34.8 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |
| Americium-241 | 10.5 | | 8.97 | 9.05 | 14.2 | 6.52 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |
| Cesium-137 | -1.39 | U | 5.93 | 5.93 | 10.7 | 4.70 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |
| Cobalt-60 | 0.764 | U | 1.51 | 1.51 | 15.9 | 6.95 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |
| Potassium-40 | -82.0 | U | 5040 | 5040 | 182 | 81.1 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |
| Protactinium-231 | 17.4 | U | 131 | 131 | 234 | 106 | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|--------------------|--------------------|-----|-----|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Other Detected Radionuclide | None | | | | | | pCi/L | 04/22/16 14:32 | 04/24/16 18:47 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 1.27 | | 0.151 | 0.189 | 0.0633 | 0.0252 | pCi/g | 04/19/16 15:37 | 05/12/16 07:07 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 102 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:07 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14

Date Collected: 04/14/16 11:15

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-1

Matrix: Solid

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 2.17 | | 0.221 | 0.295 | 0.0889 | 0.0364 | pCi/L | 04/21/16 15:11 | 05/13/16 07:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 65.5 | | 40 - 110 | | | | | 04/21/16 15:11 | 05/13/16 07:41 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.421 | | 0.227 | 0.230 | 0.337 | 0.154 | pCi/g | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 102 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Y Carrier | 89.3 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 2.00 | | 0.472 | 0.506 | 0.594 | 0.276 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 65.5 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Y Carrier | 92.3 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 1.18 | | 0.194 | 0.218 | 0.0690 | 0.0227 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 5.38 | | 0.410 | 0.610 | 0.0379 | 0.00720 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.876 | | 0.166 | 0.181 | 0.0436 | 0.0101 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 100 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.771 | | 0.283 | 0.290 | 0.215 | 0.0726 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.427 | | 0.200 | 0.203 | 0.0702 | 0.0182 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0165 | U | 0.0478 | 0.0478 | 0.115 | 0.0224 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 82.7 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14

Date Collected: 04/14/16 11:15

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-1

Matrix: Solid

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1.19 | | 0.234 | 0.255 | 0.0654 | 0.0154 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.0259 | | 0.0408 | 0.0408 | 0.0651 | 0.0111 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 1.22 | | 0.237 | 0.258 | 0.0742 | 0.0199 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 90.8 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 2.12 | | 0.438 | 0.472 | 0.103 | 0.0175 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.135 | | 0.126 | 0.127 | 0.128 | 0.0218 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 1.53 | | 0.371 | 0.393 | 0.0676 | 0.0175 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 87.7 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.299 | U | 1.80 | 1.80 | 3.02 | 1.47 | pCi/g | 04/22/16 09:17 | 05/04/16 16:57 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 72.0 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 16:57 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -1.14 | U | 1.24 | 1.24 | 2.14 | 1.04 | pCi/L | 05/09/16 17:09 | 05/16/16 21:56 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 84.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/16/16 21:56 | 1 |

Client Sample ID: AC-16 11-14

Date Collected: 04/14/16 11:15

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-1

Matrix: Solid

Percent Solids: 80.1

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 1.5 | | 1.2 | 0.18 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 03:00 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 1700 | | 120 | 12 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 03:17 | 20 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14

Date Collected: 04/14/16 11:15

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-1

Matrix: Solid

Percent Solids: 80.1

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 2.5 | J | 6.2 | 0.57 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:00 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Aluminum | 10000 | | 30 | 10 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Antimony | 2.6 | J | 3.0 | 0.39 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Arsenic | 19 | | 6.0 | 1.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Barium | 210 | | 12 | 0.57 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Beryllium | 0.81 | | 0.60 | 0.16 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Cadmium | 2.3 | | 0.30 | 0.096 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Calcium | 49000 | | 300 | 35 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Chromium | 19 | | 6.0 | 2.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Cobalt | 15 | | 1.2 | 0.26 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Copper | 1800 | | 6.0 | 0.61 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Iron | 21000 | B | 30 | 20 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Lead | 120 | | 1.8 | 0.60 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Magnesium | 8700 | | 300 | 23 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Manganese | 1200 | | 3.0 | 0.46 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Nickel | 44 | | 3.0 | 0.64 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Niobium | ND | | 15 | 2.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:25 | 10 |
| Potassium | 1400 | | 60 | 18 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Selenium | 3.3 | | 3.0 | 0.95 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Silver | 0.36 | J | 1.2 | 0.14 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Sodium | 210 | | 120 | 40 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Tantalum | ND | | 6.0 | 0.94 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:25 | 10 |
| Thallium | ND | | 3.0 | 0.92 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Vanadium | 27 | | 6.0 | 4.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |
| Zinc | 190 | | 30 | 8.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:42 | 10 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.035 | J | 0.040 | 0.013 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 16:53 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO3 | ND | | 62 | 6.8 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 1.0 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:28 | 05/13/16 22:55 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.75 | | 0.0998 | 0.0998 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:32 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------|---------|-----------|----------------------------|----------------------------|------------|------------|-------------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.165 | U | 0.286 | 0.287 | 1.34 | 0.636 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Americium-241 | 0.0702 | U | 0.167 | 0.168 | 0.282 | 0.135 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Cesium-137 | -0.0262 | U | 0.0654 | 0.0655 | 0.113 | 0.0513 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Cobalt-60 | -0.0199 | U | 0.0683 | 0.0683 | 0.122 | 0.0535 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Potassium-40 | 13.8 | | 1.79 | 2.28 | 0.952 | 0.400 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Protactinium-231 | 0.594 | U | 0.995 | 0.997 | 2.81 | 1.32 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Ac-228 | 1.12 | | 0.287 | 0.309 | 0.177 | 0.0690 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Bi-214 | 1.64 | | 0.237 | 0.292 | 0.164 | 0.0731 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Pb-212 | 0.898 | | 0.190 | 0.223 | 0.177 | 0.0836 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Pb-214 | 2.03 | | 0.254 | 0.330 | 0.161 | 0.0732 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |
| Tl-208 | 0.444 | | 0.0998 | 0.110 | 0.0715 | 0.0310 | pCi/g | 04/19/16 14:42 | 04/19/16 18:39 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------------|--------|-----------|----------------------------|----------------------------|------------|------------|-------------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.204 | U | 1.21 | 1.21 | 92.8 | 42.8 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Americium-241 | 4.84 | U | 8.70 | 8.71 | 14.8 | 6.66 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Cesium-137 | 0.000 | U | 4.15 | 4.15 | 15.3 | 6.64 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Cobalt-60 | 1.16 | U | 7.98 | 7.98 | 15.7 | 6.29 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Potassium-40 | -58.6 | U | 2350 | 2350 | 155 | 61.5 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Protactinium-231 | -9.84 | U | 26.2 | 26.2 | 308 | 138 | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Other Detected Radionuclide | None | | | | | | pCi/L | 04/22/16 14:32 | 04/24/16 18:48 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 1.81 | | 0.186 | 0.247 | 0.0819 | 0.0342 | pCi/g | 04/19/16 15:37 | 05/12/16 07:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 93.5 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:08 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 2.14 | | 0.208 | 0.284 | 0.0787 | 0.0320 | pCi/L | 04/21/16 15:11 | 05/13/16 07:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 74.9 | | 40 - 110 | | | | | 04/21/16 15:11 | 05/13/16 07:41 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 3.81 | | 0.455 | 0.574 | 0.382 | 0.175 | pCi/g | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 93.5 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Y Carrier | 88.6 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 1.58 | | 0.357 | 0.386 | 0.416 | 0.190 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 74.9 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Y Carrier | 95.3 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 1.20 | | 0.198 | 0.222 | 0.0850 | 0.0307 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 31.1 | | 0.989 | 2.79 | 0.0381 | 0.00724 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 1.01 | | 0.178 | 0.198 | 0.0485 | 0.0125 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 93.7 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.399 | | 0.218 | 0.221 | 0.223 | 0.0745 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.333 | | 0.186 | 0.188 | 0.141 | 0.0333 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0247 | | 0.0493 | 0.0494 | 0.0740 | 0.0191 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 82.3 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.941 | | 0.214 | 0.228 | 0.107 | 0.0361 | pCi/g | 04/22/16 08:51 | 05/06/16 12:39 | 1 |
| Uranium-235/236 | 0.0443 | | 0.0591 | 0.0592 | 0.0935 | 0.0251 | pCi/g | 04/22/16 08:51 | 05/06/16 12:39 | 1 |
| Uranium-238 | 1.10 | | 0.227 | 0.245 | 0.0707 | 0.0180 | pCi/g | 04/22/16 08:51 | 05/06/16 12:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 85.1 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/06/16 12:39 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 2.73 | | 0.518 | 0.566 | 0.111 | 0.0190 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.152 | | 0.136 | 0.137 | 0.0913 | 0.0236 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 2.12 | | 0.455 | 0.489 | 0.111 | 0.0189 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 83.6 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.710 | U | 1.72 | 1.72 | 2.86 | 1.40 | pCi/g | 04/22/16 09:17 | 05/04/16 18:03 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 75.0 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 18:03 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -0.205 | U | 1.25 | 1.25 | 2.12 | 1.03 | pCi/L | 05/09/16 17:09 | 05/16/16 23:02 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 85.3 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/16/16 23:02 | 1 |

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Percent Solids: 83.6

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Fluoride | 1.5 | | 1.2 | 0.17 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 04:41 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|-----|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Sulfate | 1900 | | 120 | 12 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 04:58 | 20 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Scandium | 2.4 | J | 5.9 | 0.55 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:05 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|--------------------|-------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Aluminum | 11000 | | 27 | 9.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Antimony | 0.52 | J | 2.7 | 0.35 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Arsenic | 15 | | 5.4 | 1.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Barium | 310 | | 11 | 0.51 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Beryllium | 0.84 | | 0.54 | 0.14 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Cadmium | 1.1 | | 0.27 | 0.086 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Calcium | 16000 | | 270 | 31 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 11-14 DUP

Date Collected: 04/15/16 08:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-2

Matrix: Solid

Percent Solids: 83.6

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Chromium | 17 | | 5.4 | 2.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Cobalt | 12 | | 1.1 | 0.23 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Copper | 1600 | | 5.4 | 0.54 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Iron | 21000 | B | 27 | 18 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Lead | 110 | | 1.6 | 0.54 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Magnesium | 7300 | | 270 | 20 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Manganese | 760 | | 2.7 | 0.41 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Nickel | 34 | | 2.7 | 0.58 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Niobium | ND | | 13 | 2.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:29 | 10 |
| Potassium | 1800 | | 54 | 16 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Selenium | 1.9 | J | 2.7 | 0.85 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Silver | 0.27 | J | 1.1 | 0.13 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Sodium | 220 | | 110 | 36 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Tantalum | ND | | 5.4 | 0.84 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:29 | 10 |
| Thallium | ND | | 2.7 | 0.82 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Vanadium | 30 | | 5.4 | 4.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |
| Zinc | 220 | | 27 | 7.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:49 | 10 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.037 | | 0.037 | 0.012 | mg/Kg | ✉ | 04/20/16 09:52 | 04/20/16 16:55 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 60 | 6.5 | mg/Kg | ✉ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-15 29-30

Lab Sample ID: 160-16964-3

Matrix: Solid

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.71 | | 0.13 | 0.0053 | mg/L | ✉ | 04/26/16 11:28 | 05/13/16 22:59 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.90 | | 0.0998 | 0.0998 | SU | ✉ | 04/20/16 23:21 | 04/21/16 19:35 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|---------|-----------|--------------------|--------------------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | |
| Actinium-227 | 0.237 | U | 0.551 | 0.552 | 0.936 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Americium-241 | -0.0444 | U | 0.116 | 0.116 | 0.197 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Cesium-137 | 0.00595 | U | 0.0350 | 0.0350 | 0.0652 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Cobalt-60 | -0.0136 | U | 0.0557 | 0.0557 | 0.101 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Potassium-40 | 14.6 | | 1.75 | 2.30 | 0.887 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Protactinium-231 | -0.407 | U | 0.990 | 0.991 | 1.71 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-15 29-30

Lab Sample ID: 160-16964-3

Matrix: Solid

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|-----------------|-----------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 0.523 | | 0.142 | 0.152 | 0.141 | 0.0622 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Pb-212 | 0.541 | | 0.113 | 0.133 | 0.120 | 0.0555 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Pb-214 | 0.508 | | 0.126 | 0.137 | 0.130 | 0.0584 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |
| Tl-208 | 0.271 | | 0.0738 | 0.0790 | 0.0645 | 0.0279 | pCi/g | 04/19/16 14:42 | 04/19/16 19:20 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|-----------------|-----------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | -9.60 | U | 49.1 | 49.2 | 85.7 | 39.7 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |
| Americium-241 | -1.08 | U | 11.2 | 11.2 | 19.6 | 9.16 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |
| Cesium-137 | -0.111 | U | 7.39 | 7.39 | 13.8 | 6.08 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |
| Cobalt-60 | 0.970 | U | 3.15 | 3.15 | 6.79 | 2.15 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |
| Potassium-40 | -69.1 | U | 2760 | 2760 | 144 | 59.3 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |
| Protactinium-231 | -43.3 | U | 138 | 139 | 244 | 109 | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|-----------------|-----------------|-----|-----|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Other Detected Radionuclide | None | | | | | | pCi/L | 04/22/16 14:32 | 04/24/16 19:13 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.262 | | 0.0771 | 0.0806 | 0.0678 | 0.0269 | pCi/g | 04/19/16 15:37 | 05/12/16 07:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

| | | | | | | | | | | |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|
| Ba Carrier | 94.1 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:08 | 1 |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.785 | | 0.147 | 0.163 | 0.100 | 0.0410 | pCi/L | 04/21/16 15:11 | 05/13/16 07:41 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

| | | | | | | | | | | |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|
| Ba Carrier | 54.1 | | 40 - 110 | | | | | 04/21/16 15:11 | 05/13/16 07:41 | 1 |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.211 | | 0.236 | 0.237 | 0.387 | 0.178 | pCi/g | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

| | | | | | | | | | | |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|
| Ba Carrier | 94.1 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |
| Y Carrier | 87.9 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:47 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-15 29-30

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-3

Matrix: Solid

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 1.69 | | 0.461 | 0.487 | 0.579 | 0.266 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| <i>Carrier</i> | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Ba Carrier | 54.1 | | 40 - 110 | | | | | | 04/21/16 15:32 | |
| Y Carrier | 96.1 | | 40 - 110 | | | | | | 04/21/16 15:32 | |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.648 | | 0.139 | 0.150 | 0.0764 | 0.0276 | pCi/g | 04/22/16 08:51 | 05/11/16 12:51 | 1 |
| Thorium-230 | 0.559 | | 0.126 | 0.134 | 0.0212 | 0.00651 | pCi/g | 04/22/16 08:51 | 05/11/16 12:51 | 1 |
| Thorium-232 | 0.481 | | 0.117 | 0.124 | 0.0435 | 0.0112 | pCi/g | 04/22/16 08:51 | 05/11/16 12:51 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Thorium-229 | 101 | | 30 - 110 | | | | | | 04/22/16 08:51 | |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.606 | | 0.240 | 0.246 | 0.170 | 0.0517 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.266 | | 0.154 | 0.155 | 0.0666 | 0.0172 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0202 | | 0.0446 | 0.0446 | 0.0895 | 0.0116 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Thorium-229 | 92.9 | | 30 - 110 | | | | | | 04/29/16 09:32 | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.418 | | 0.144 | 0.149 | 0.0563 | 0.00960 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.0125 | | 0.0313 | 0.0313 | 0.0701 | 0.0119 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 0.343 | | 0.131 | 0.134 | 0.0562 | 0.00958 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Uranium-232 | 76.1 | | 30 - 110 | | | | | | 04/22/16 08:51 | |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.272 | | 0.172 | 0.174 | 0.0816 | 0.0211 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.0339 | | 0.0677 | 0.0678 | 0.102 | 0.0263 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 0.153 | | 0.134 | 0.134 | 0.141 | 0.0298 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Uranium-232 | 71.0 | | 30 - 110 | | | | | | 04/29/16 09:32 | |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-15 29-30

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-3

Matrix: Solid

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.000 | U | 1.81 | 1.81 | 3.06 | 1.49 | pCi/g | 04/22/16 09:17 | 04/30/16 01:19 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 66.8 | | 40 - 110 | | | | | 04/22/16 09:17 | 04/30/16 01:19 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -0.597 | U | 1.21 | 1.21 | 2.06 | 1.01 | pCi/L | 05/09/16 17:09 | 05/17/16 00:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 87.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 00:08 | 1 |

Client Sample ID: AC-15 29-30

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-3

Matrix: Solid

Percent Solids: 80.6

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 0.61 | J | 1.2 | 0.18 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 05:49 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 270 | | 31 | 3.1 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 06:06 | 5 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 0.82 | J | 6.1 | 0.56 | mg/Kg | ✉ | 04/23/16 07:58 | 04/26/16 04:10 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Aluminum | 2800 | | 13 | 4.5 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Antimony | ND | | 1.3 | 0.17 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Arsenic | 3.0 | | 2.7 | 0.69 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Barium | 88 | | 5.3 | 0.25 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Beryllium | 0.21 | J | 0.27 | 0.069 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Cadmium | 0.13 | | 0.13 | 0.043 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Calcium | 11000 | | 130 | 16 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Chromium | 7.0 | | 2.7 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Cobalt | 4.5 | | 0.53 | 0.11 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Copper | 12 | | 2.7 | 0.27 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Iron | 9000 | B | 13 | 8.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Lead | 7.3 | | 0.80 | 0.27 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Magnesium | 4700 | | 130 | 10 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Manganese | 160 | | 1.3 | 0.21 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Nickel | 13 | | 1.3 | 0.29 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Niobium | ND | | 6.7 | 1.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:34 | 5 |
| Potassium | 530 | | 27 | 8.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-15 29-30

Date Collected: 04/14/16 10:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-3

Matrix: Solid

Percent Solids: 80.6

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Selenium | 1.3 | | 1.3 | 0.42 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Silver | 0.066 | J | 0.53 | 0.064 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Sodium | 89 | | 53 | 18 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Tantalum | ND | | 2.7 | 0.42 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:34 | 5 |
| Thallium | ND | | 1.3 | 0.41 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Vanadium | 11 | | 2.7 | 2.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |
| Zinc | 66 | | 13 | 3.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 00:56 | 5 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | ND | | 0.036 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:01 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 62 | 6.7 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-8 4-10

Date Collected: 04/14/16 09:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-4

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.23 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:28 | 05/13/16 23:04 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| pH | 7.45 | | 0.100 | 0.100 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:37 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.0999 | U | 0.616 | 0.616 | 1.09 | 0.499 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Americium-241 | 0.0310 | U | 0.112 | 0.112 | 0.203 | 0.0934 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Cesium-137 | 0.0255 | U | 0.0803 | 0.0803 | 0.151 | 0.0667 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Cobalt-60 | 0.000 | U | 0.0194 | 0.0194 | 0.197 | 0.0854 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Potassium-40 | 6.07 | | 1.72 | 1.83 | 1.66 | 0.697 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Protactinium-231 | 0.256 | U | 0.994 | 0.994 | 2.39 | 1.06 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |

Other Detected

| Radionuclides | Result | Qualifier | Count (2σ+/-) | Total (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|------------------|------------------|--------|--------|-------|----------------|----------------|---------|
| Ac-228 | 0.951 | | 0.276 | 0.293 | 0.179 | 0.0567 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Bi-214 | 0.605 | | 0.186 | 0.196 | 0.180 | 0.0753 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Pb-212 | 0.698 | | 0.160 | 0.183 | 0.151 | 0.0685 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Pb-214 | 0.765 | | 0.188 | 0.204 | 0.231 | 0.104 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |
| Tl-208 | 0.252 | | 0.0835 | 0.0875 | 0.0607 | 0.0226 | pCi/g | 04/19/16 14:42 | 04/19/16 19:21 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-8 4-10

Lab Sample ID: 160-16964-4

Date Collected: 04/14/16 09:45

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------|-------------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 13.4 | U | 49.2 | 49.2 | 84.8 | 39.6 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| Americium-241 | 0.000 | U | 9.10 | 9.10 | 22.9 | 10.9 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| Cesium-137 | -1.52 | U | 6.29 | 6.30 | 11.3 | 4.98 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| Cobalt-60 | 0.000 | U | 6.45 | 6.45 | 15.9 | 6.92 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| Potassium-40 | 83.4 | | 75.6 | 76.1 | 113 | 46.2 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| Protactinium-231 | -3.67 | U | 141 | 141 | 254 | 116 | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |
| <i>Other Detected</i> | | | Count | Total | | | | | | |
| <i>Radionuclides</i> | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Other Detected | None | | | | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Radionuclide | | | | | | | pCi/L | 04/22/16 14:32 | 04/24/16 19:27 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.754 | | 0.122 | 0.140 | 0.0708 | 0.0285 | pCi/g | 04/19/16 15:37 | 05/12/16 07:08 | 1 |
| Carrier | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Ba Carrier | 94.3 | | 40 - 110 | | | | | | | |
| | | | | | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | 04/19/16 15:37 | 05/12/16 07:08 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.608 | | 0.114 | 0.126 | 0.0708 | 0.0281 | pCi/L | 04/21/16 15:11 | 05/13/16 07:41 | 1 |
| Carrier | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Ba Carrier | 75.2 | | 40 - 110 | | | | | | | |
| | | | | | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | 04/21/16 15:11 | 05/13/16 07:41 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.455 | | 0.277 | 0.280 | 0.426 | 0.197 | pCi/g | 04/19/16 16:25 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Ba Carrier | 94.3 | | 40 - 110 | | | | | | | |
| Y Carrier | 89.3 | | 40 - 110 | | | | | | | |
| | | | | | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | 04/19/16 16:25 | 05/05/16 12:48 | 1 |
| | | | | | | | | 04/19/16 16:25 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.604 | | 0.331 | 0.336 | 0.501 | 0.232 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Carrier | %Yield | Qualifier | <i>Limits</i> | | | | | | | |
| Ba Carrier | 75.2 | | 40 - 110 | | | | | | | |
| Y Carrier | 91.6 | | 40 - 110 | | | | | | | |
| | | | | | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| | | | | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-8 4-10

Date Collected: 04/14/16 09:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-4

Matrix: Solid

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|---------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.936 | | 0.183 | 0.199 | 0.0867 | 0.0305 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 1.23 | | 0.206 | 0.230 | 0.0415 | 0.00788 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.746 | | 0.160 | 0.172 | 0.0478 | 0.0111 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| Thorium-229 | 88.4 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.554 | | 0.223 | 0.228 | 0.183 | 0.0617 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.218 | | 0.133 | 0.134 | 0.0904 | 0.0154 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0358 | | 0.0564 | 0.0565 | 0.0900 | 0.0153 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| Thorium-229 | 98.6 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.611 | | 0.170 | 0.177 | 0.0663 | 0.0157 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.0408 | | 0.0505 | 0.0506 | 0.0660 | 0.0113 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 0.856 | | 0.200 | 0.213 | 0.0604 | 0.0128 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| Uranium-232 | 84.2 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1.51 | | 0.424 | 0.443 | 0.198 | 0.0553 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.000 | U | 0.0136 | 0.0136 | 0.109 | 0.0281 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 1.13 | | 0.362 | 0.375 | 0.0870 | 0.0225 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| <i>Tracer</i> | %Yield | Qualifier | <i>Limits</i> | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| Uranium-232 | 70.1 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.000 | U | 1.56 | 1.56 | 2.63 | 1.28 | pCi/g | 04/22/16 09:17 | 05/04/16 19:09 | 1 |
| <i>Carrier</i> | %Yield | Qualifier | <i>Limits</i> | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| Pb Carrier | 82.5 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 19:09 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-8 4-10

Date Collected: 04/14/16 09:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-4

Matrix: Solid

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -0.841 | U | 1.27 | 1.27 | 2.18 | 1.06 | pCi/L | 05/09/16 17:09 | 05/17/16 01:14 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 83.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 01:14 | 1 |

Client Sample ID: AC-8 4-10

Date Collected: 04/14/16 09:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-4

Matrix: Solid

Percent Solids: 84.1

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 4.1 | | 1.2 | 0.17 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 06:23 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 2500 | | 120 | 12 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 06:40 | 20 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 1.5 | J | 5.8 | 0.54 | mg/Kg | ✉ | 04/23/16 07:58 | 04/26/16 04:12 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 4700 | | 140 | 47 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Antimony | ND | | 14 | 1.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Arsenic | ND | | 28 | 7.3 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Barium | 110 | | 56 | 2.6 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Beryllium | ND | | 2.8 | 0.73 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Cadmium | 0.87 | J | 1.4 | 0.45 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Calcium | 270000 | | 1400 | 160 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Chromium | ND | | 28 | 13 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Cobalt | 4.9 | J | 5.6 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Copper | 11 | J | 28 | 2.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Iron | 13000 | B | 140 | 92 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Lead | 27 | | 8.4 | 2.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Magnesium | 46000 | | 1400 | 110 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Manganese | 400 | | 14 | 2.1 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Nickel | 12 | J | 14 | 3.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Niobium | ND | | 70 | 11 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:38 | 50 |
| Potassium | 700 | | 280 | 84 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Selenium | ND | | 14 | 4.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Silver | ND | | 5.6 | 0.67 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Sodium | ND | | 560 | 190 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Tantalum | ND | | 28 | 4.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:38 | 50 |
| Thallium | ND | | 14 | 4.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Vanadium | ND | | 28 | 21 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |
| Zinc | 70 | J | 140 | 37 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:03 | 50 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-8 4-10

Date Collected: 04/14/16 09:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-4

Matrix: Solid

Percent Solids: 84.1

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.096 | | 0.035 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:02 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 59 | 6.4 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-21 20-24

Date Collected: 04/14/16 09:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-5

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.57 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:28 | 05/13/16 23:09 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.66 | | 0.0999 | 0.0999 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:39 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|---------|-----------|---------|---------|-------|-------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Actinium-227 | 18.0 | | 2.91 | 3.52 | 4.84 | 2.38 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Americium-241 | 0.305 | U | 0.760 | 0.761 | 1.26 | 0.624 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Cesium-137 | 0.0125 | U | 0.144 | 0.144 | 0.254 | 0.119 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Cobalt-60 | -0.0734 | U | 0.453 | 0.453 | 0.287 | 0.132 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Potassium-40 | 10.6 | | 2.62 | 2.84 | 1.96 | 0.866 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Protactinium-231 | 17.1 | | 4.51 | 4.88 | 6.52 | 3.15 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |

Other Detected

| Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|---------|---------|-------|--------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Bi-214 | 21.3 | | 0.974 | 2.42 | 0.421 | 0.198 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Pb-210 | 30.7 | | 7.12 | 7.98 | 8.97 | 4.39 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Pb-214 | 27.1 | | 1.06 | 3.01 | 0.621 | 0.300 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Th-227 | 18.0 | | 2.91 | 3.52 | 4.84 | 2.38 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Th-234 | 96.3 | | 9.12 | 13.6 | 9.98 | 4.93 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| Tl-208 | 0.357 | | 0.153 | 0.157 | 0.175 | 0.0809 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |
| U-235 | 13.8 | | 1.31 | 1.92 | 1.68 | 0.820 | pCi/g | 04/19/16 14:42 | 04/19/16 19:22 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Actinium-227 | 7.41 | U | 65.1 | 65.1 | 113 | 53.2 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Americium-241 | 10.9 | | 13.8 | 13.9 | 22.8 | 10.8 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Cesium-137 | -1.14 | U | 6.97 | 6.97 | 12.8 | 5.58 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Cobalt-60 | 0.137 | U | 7.87 | 7.87 | 15.4 | 6.46 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Potassium-40 | 13.9 | U | 76.5 | 76.5 | 172 | 73.3 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Protactinium-231 | 73.1 | U | 77.1 | 77.5 | 326 | 150 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-21 20-24

Lab Sample ID: 160-16964-5

Matrix: Solid

Date Collected: 04/14/16 09:30

Date Received: 04/15/16 15:30

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 45.8 | | 18.1 | 18.7 | 21.5 | 9.36 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| Pb-214 | 61.3 | | 19.1 | 20.1 | 25.0 | 11.4 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |
| U-235 | 108 | | 40.9 | 42.4 | 49.0 | 22.4 | pCi/L | 04/22/16 14:32 | 04/25/16 08:12 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 45.0 | | 0.929 | 4.15 | 0.0711 | 0.0284 | pCi/g | 04/19/16 15:37 | 05/12/16 07:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 91.5 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:08 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 90.8 | | 1.32 | 8.27 | 0.101 | 0.0433 | pCi/L | 04/21/16 15:11 | 05/13/16 07:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 77.2 | | 40 - 110 | | | | | 04/21/16 15:11 | 05/13/16 07:42 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.677 | | 0.274 | 0.281 | 0.389 | 0.179 | pCi/g | 04/19/16 16:25 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 91.5 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:48 | 1 |
| Y Carrier | 93.1 | | 40 - 110 | | | | | 04/19/16 16:25 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.663 | | 0.294 | 0.300 | 0.420 | 0.192 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 77.2 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Y Carrier | 91.6 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 1.49 | | 0.222 | 0.255 | 0.0714 | 0.0236 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 1240 | | 6.34 | 104 | 0.0454 | 0.0105 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 1.96 | | 0.251 | 0.301 | 0.0242 | 0.00742 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-21 20-24

Date Collected: 04/14/16 09:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-5

Matrix: Solid

| Tracer | %Yield | Qualifier | Limits |
|-------------|--------|-----------|----------|
| Thorium-229 | 97.4 | | 30 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.740 | | 0.254 | 0.261 | 0.153 | 0.0454 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 5.13 | | 0.653 | 0.783 | 0.108 | 0.0228 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0207 | | 0.0414 | 0.0414 | 0.0620 | 0.0161 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

| Tracer | %Yield | Qualifier | Limits |
|-------------|--------|-----------|----------|
| Thorium-229 | 91.5 | | 30 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 102 | | 3.42 | 9.25 | 0.174 | 0.0444 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 5.80 | | 0.908 | 1.03 | 0.107 | 0.0276 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 107 | | 3.50 | 9.66 | 0.130 | 0.0221 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

| Tracer | %Yield | Qualifier | Limits |
|-------------|--------|-----------|----------|
| Uranium-232 | 36.3 | | 30 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1000 | | 11.0 | 84.8 | 0.292 | 0.100 | pCi/L | 04/29/16 09:32 | 05/10/16 14:21 | 1 |
| Uranium-235/236 | 49.9 | | 2.75 | 5.02 | 0.114 | 0.0881 | pCi/L | 04/29/16 09:32 | 05/10/16 14:21 | 1 |
| Uranium-238 | 1020 | | 11.2 | 86.8 | 0.336 | 0.122 | pCi/L | 04/29/16 09:32 | 05/10/16 14:21 | 1 |

| Tracer | %Yield | Qualifier | Limits |
|-------------|--------|-----------|----------|
| Uranium-232 | 11.8 | X | 30 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 04/29/16 09:32 | 05/10/16 14:21 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 2.67 | | 1.84 | 1.86 | 2.98 | 1.46 | pCi/g | 04/22/16 09:17 | 05/04/16 20:15 | 1 |

| Carrier | %Yield | Qualifier | Limits |
|------------|--------|-----------|----------|
| Pb Carrier | 71.6 | | 40 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 04/22/16 09:17 | 05/04/16 20:15 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.939 | U | 1.31 | 1.31 | 2.16 | 1.05 | pCi/L | 05/09/16 17:09 | 05/17/16 02:20 | 1 |

| Carrier | %Yield | Qualifier | Limits |
|------------|--------|-----------|----------|
| Pb Carrier | 83.7 | | 40 - 110 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 05/09/16 17:09 | 05/17/16 02:20 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-21 20-24

Date Collected: 04/14/16 09:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-5

Matrix: Solid

Percent Solids: 79.8

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 11 | | 1.2 | 0.18 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 06:57 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 3500 | | 310 | 31 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 07:13 | 50 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 2.9 | J | 6.1 | 0.57 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:17 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Aluminum | 6400 | | 29 | 9.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Antimony | 0.77 | J | 2.9 | 0.38 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Arsenic | 20 | | 5.9 | 1.5 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Barium | 1600 | | 12 | 0.55 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Beryllium | 0.55 | J | 0.59 | 0.15 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Cadmium | 1.5 | | 0.29 | 0.094 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Calcium | 52000 | | 290 | 34 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Chromium | 26 | | 5.9 | 2.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Cobalt | 230 | | 1.2 | 0.25 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Copper | 170 | | 5.9 | 0.59 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Iron | 26000 | B | 29 | 19 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Lead | 150 | | 1.8 | 0.59 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Magnesium | 14000 | | 290 | 22 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Manganese | 500 | | 2.9 | 0.45 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Nickel | 320 | | 2.9 | 0.63 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Niobium | ND | | 15 | 2.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:42 | 10 |
| Potassium | 960 | | 59 | 18 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Selenium | 18 | | 2.9 | 0.93 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Silver | 0.92 | J | 1.2 | 0.14 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Sodium | 250 | | 120 | 39 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Tantalum | ND | | 5.9 | 0.92 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:42 | 10 |
| Thallium | ND | | 2.9 | 0.90 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Vanadium | 79 | | 5.9 | 4.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |
| Zinc | 220 | | 29 | 7.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:09 | 10 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.38 | | 0.036 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:04 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO3 | ND | | 63 | 6.8 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-13 4-6

Date Collected: 04/15/16 10:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-6

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.70 | | 0.13 | 0.0053 | mg/L | | 04/26/16 11:28 | 05/13/16 23:13 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 8.26 | | 0.0999 | 0.0999 | SU | | 04/20/16 23:21 | 04/21/16 19:42 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | |
|------------------|---------|---|--------|--------|--------|--------|-------|----------------|----------------|---|
| Actinium-227 | 0.397 | U | 0.798 | 0.800 | 1.35 | 0.631 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Americium-241 | 0.0347 | U | 0.156 | 0.157 | 0.269 | 0.127 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Cesium-137 | 0.00263 | U | 0.0538 | 0.0538 | 0.101 | 0.0439 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Cobalt-60 | 0.00815 | U | 0.0344 | 0.0344 | 0.0538 | 0.0170 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Potassium-40 | 2.95 | | 1.21 | 1.25 | 1.70 | 0.749 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Protactinium-231 | 0.550 | U | 1.02 | 1.02 | 2.22 | 0.995 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |

| Other Detected | Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | |
|--------|-------|--|-------|-------|-------|--------|-------|----------------|----------------|---|
| Br-214 | 1.94 | | 0.277 | 0.342 | 0.186 | 0.0811 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Pb-212 | 0.328 | | 0.143 | 0.149 | 0.177 | 0.0819 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |
| Pb-214 | 2.18 | | 0.260 | 0.345 | 0.218 | 0.0990 | pCi/g | 04/19/16 14:42 | 04/19/16 20:13 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | |
|------------------|--------|---|------|------|------|------|-------|----------------|----------------|---|
| Actinium-227 | -4.54 | U | 51.0 | 51.0 | 88.4 | 41.8 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |
| Americium-241 | 0.0298 | U | 9.92 | 9.92 | 18.3 | 8.67 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |
| Cesium-137 | 1.58 | U | 6.52 | 6.53 | 11.6 | 5.20 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |
| Cobalt-60 | 2.52 | U | 4.97 | 4.98 | 12.5 | 5.36 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |
| Potassium-40 | -53.4 | U | 164 | 164 | 189 | 85.5 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |
| Protactinium-231 | 33.8 | U | 71.3 | 71.4 | 194 | 86.9 | pCi/L | 04/22/16 14:32 | 04/25/16 09:59 | 1 |

| Other Detected | Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | | |
|----------------|------|--|--|--|--|--|--|--|--|--|--|
| Other Detected | None | | | | | | | | | | |
|----------------|------|--|--|--|--|--|--|--|--|--|--|

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|--------------------|-----|-----|------|----------|----------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |

| | | | | | | | | | | |
|------------|--------|-----------|--------|-------|--------|--------|-------|----------------|----------------|---------|
| Radium-226 | 2.85 | | 0.229 | 0.344 | 0.0595 | 0.0230 | pCi/g | 04/19/16 15:37 | 05/12/16 07:09 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

| | | | | | | | | | | |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|
| Ba Carrier | 92.1 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:09 | 1 |
|------------|------|--|----------|--|--|--|--|----------------|----------------|---|

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-13 4-6

Date Collected: 04/15/16 10:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-6

Matrix: Solid

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 5.44 | | 0.336 | 0.594 | 0.107 | 0.0458 | pCi/L | 04/21/16 15:11 | 05/13/16 07:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 69.2 | | 40 - 110 | | | | | 04/21/16 15:11 | 05/13/16 07:42 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.214 | | 0.220 | 0.221 | 0.359 | 0.163 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 92.1 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 90.8 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.653 | | 0.353 | 0.358 | 0.531 | 0.245 | pCi/L | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 69.2 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |
| Y Carrier | 90.5 | | 40 - 110 | | | | | 04/21/16 15:32 | 05/03/16 11:59 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.295 | | 0.116 | 0.119 | 0.107 | 0.0390 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 55.6 | | 1.45 | 4.89 | 0.0533 | 0.0124 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.220 | | 0.0931 | 0.0949 | 0.0585 | 0.0151 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 78.1 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|----------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.441 | | 0.210 | 0.214 | 0.206 | 0.0720 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.467 | | 0.198 | 0.202 | 0.0945 | 0.0161 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | -0.00788 | U | 0.0110 | 0.0111 | 0.108 | 0.0229 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 92.2 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-13 4-6

Date Collected: 04/15/16 10:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-6

Matrix: Solid

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1.49 | | 0.269 | 0.297 | 0.0814 | 0.0228 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.117 | | 0.0904 | 0.0909 | 0.101 | 0.0283 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 1.40 | | 0.260 | 0.285 | 0.0729 | 0.0185 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 80.3 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1.11 | | 0.364 | 0.375 | 0.0897 | 0.0232 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.0372 | | 0.0744 | 0.0745 | 0.112 | 0.0289 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 1.24 | | 0.387 | 0.401 | 0.155 | 0.0328 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 65.5 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 5.91 | | 1.92 | 1.99 | 2.98 | 1.45 | pCi/g | 04/22/16 09:17 | 05/04/16 21:22 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 70.9 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 21:22 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -1.21 | U | 1.20 | 1.21 | 2.09 | 1.02 | pCi/L | 05/09/16 17:09 | 05/17/16 03:27 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 86.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 03:27 | 1 |

Client Sample ID: AC-13 4-6

Date Collected: 04/15/16 10:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-6

Matrix: Solid

Percent Solids: 81.4

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 20 | | 1.2 | 0.18 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 07:30 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 340 | | 31 | 3.1 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 07:47 | 5 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-13 4-6

Date Collected: 04/15/16 10:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-6

Matrix: Solid

Percent Solids: 81.4

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 0.74 | J | 6.1 | 0.57 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:22 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 4300 | | 140 | 48 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Antimony | ND | | 14 | 1.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Arsenic | ND | | 28 | 7.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Barium | 77 | | 57 | 2.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Beryllium | ND | | 2.8 | 0.74 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Cadmium | 0.72 | J | 1.4 | 0.46 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Calcium | 410000 | | 1400 | 170 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Chromium | 18 | J | 28 | 13 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Cobalt | 3.5 | J | 5.7 | 1.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Copper | 44 | | 28 | 2.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Iron | 8500 | B | 140 | 94 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Lead | 32 | | 8.5 | 2.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Magnesium | 18000 | | 1400 | 110 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Manganese | 260 | | 14 | 2.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Nickel | 21 | | 14 | 3.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Niobium | ND | | 71 | 11 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:47 | 50 |
| Potassium | 970 | | 280 | 85 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Selenium | ND | | 14 | 4.5 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Silver | ND | | 5.7 | 0.68 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Sodium | ND | | 570 | 190 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Tantalum | ND | | 28 | 4.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:47 | 50 |
| Thallium | ND | | 14 | 4.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Vanadium | ND | | 28 | 21 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |
| Zinc | 73 | J | 140 | 38 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:16 | 50 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.012 | J | 0.036 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:06 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | 49 | J | 61 | 6.6 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-10 12-13

Date Collected: 04/15/16 10:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-7

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.26 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:40 | 05/18/16 22:18 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.64 | | 0.0998 | 0.0998 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:44 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-10 12-13

Date Collected: 04/15/16 10:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-7

Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------|--------------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.632 | | 0.318 | 0.326 | 0.804 | 0.363 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Americium-241 | -0.0355 | U | 1.42 | 1.42 | 0.252 | 0.119 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Cesium-137 | -0.0641 | U | 0.197 | 0.197 | 0.156 | 0.0707 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Cobalt-60 | 0.0151 | U | 0.0351 | 0.0351 | 0.231 | 0.104 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Potassium-40 | 4.96 | | 1.34 | 1.43 | 0.987 | 0.378 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Protactinium-231 | 0.171 | U | 0.375 | 0.376 | 2.30 | 1.03 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| <i>Bi-214</i> | 1.13 | | 0.211 | 0.242 | 0.132 | 0.0534 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| <i>Pb-212</i> | 0.303 | | 0.119 | 0.125 | 0.168 | 0.0779 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |
| <i>Pb-214</i> | 1.20 | | 0.198 | 0.233 | 0.145 | 0.0626 | pCi/g | 04/19/16 14:42 | 04/19/16 20:14 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------|-------------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 12.4 | U | 49.4 | 49.4 | 85.3 | 39.8 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Americium-241 | 1.54 | U | 9.15 | 9.16 | 16.0 | 7.42 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Cesium-137 | -1.59 | U | 6.57 | 6.57 | 11.7 | 5.22 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Cobalt-60 | -0.197 | U | 0.553 | 0.553 | 12.4 | 5.21 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Potassium-40 | -18.5 | U | 128 | 128 | 179 | 79.5 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Protactinium-231 | 16.6 | U | 75.8 | 75.8 | 268 | 123 | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| <i>Other Detected</i> | <i>None</i> | | | | | | pCi/L | 04/22/16 14:32 | 04/25/16 10:01 | 1 |
| Radionuclide | | | | | | | | | | |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 1.64 | | 0.170 | 0.225 | 0.0569 | 0.0220 | pCi/g | 04/19/16 15:37 | 05/13/16 07:22 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 1.36 | | 0.173 | 0.212 | 0.0970 | 0.0408 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-10 12-13

Date Collected: 04/15/16 10:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-7

Matrix: Solid

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.244 | | 0.226 | 0.227 | 0.364 | 0.166 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 91.8 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 90.8 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.667 | | 0.357 | 0.362 | 0.522 | 0.236 | pCi/L | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 56.4 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Y Carrier | 88.2 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.905 | | 0.169 | 0.185 | 0.0839 | 0.0307 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 9.63 | | 0.537 | 0.971 | 0.0403 | 0.00895 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.617 | | 0.136 | 0.145 | 0.0327 | 0.00519 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 96.7 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|---------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.224 | | 0.153 | 0.154 | 0.175 | 0.0560 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.166 | | 0.121 | 0.122 | 0.108 | 0.0229 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.000 U | | 0.00778 | 0.00778 | 0.0622 | 0.0161 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 99.8 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 1.22 | | 0.243 | 0.264 | 0.0550 | 0.00939 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.105 | | 0.0796 | 0.0801 | 0.0451 | 0.0117 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 1.62 | | 0.281 | 0.312 | 0.0686 | 0.0162 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | | | | | | | | | | |
| Uranium-232 | 83.6 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

TestAmerica Job ID: 160-16964-1

Project/Site: Westlake Landfill Phase 1D Investigation

Client Sample ID: AC-10 12-13

Lab Sample ID: 160-16964-7

Date Collected: 04/15/16 10:30

Matrix: Solid

Date Received: 04/15/16 15:30

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 4.84 | | 0.681 | 0.793 | 0.124 | 0.0262 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.149 | | 0.133 | 0.133 | 0.0892 | 0.0231 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 2.91 | | 0.526 | 0.580 | 0.0715 | 0.0185 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 79.5 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 2.17 | | 1.91 | 1.92 | 3.12 | 1.52 | pCi/g | 04/22/16 09:17 | 05/04/16 22:28 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 67.7 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 22:28 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -0.198 | U | 1.21 | 1.21 | 2.05 | 1.00 | pCi/L | 05/09/16 17:09 | 05/17/16 04:33 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 88.3 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 04:33 | 1 |

Client Sample ID: AC-10 12-13

Lab Sample ID: 160-16964-7

Date Collected: 04/15/16 10:30

Matrix: Solid

Date Received: 04/15/16 15:30

Percent Solids: 77.6

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Fluoride | 2.9 | | 1.3 | 0.18 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 08:04 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|-----|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Sulfate | 1600 | | 130 | 13 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 08:21 | 20 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Scandium | 1.7 | J | 6.4 | 0.60 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:27 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Aluminum | 4800 | | 140 | 47 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Antimony | ND | | 14 | 1.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Arsenic | 15 | J | 28 | 7.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Barium | 94 | | 56 | 2.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Beryllium | ND | | 2.8 | 0.73 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Cadmium | 1.9 | | 1.4 | 0.45 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Calcium | 290000 | | 1400 | 160 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-10 12-13

Date Collected: 04/15/16 10:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-7

Matrix: Solid

Percent Solids: 77.6

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Chromium | 22 | J | 28 | 13 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Cobalt | 9.6 | | 5.6 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Copper | 26 | J | 28 | 2.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Iron | 21000 | B | 140 | 93 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Lead | 63 | | 8.4 | 2.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Magnesium | 21000 | | 1400 | 110 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Manganese | 380 | | 14 | 2.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Nickel | 31 | | 14 | 3.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Niobium | ND | | 70 | 11 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:51 | 50 |
| Potassium | 1000 | | 280 | 84 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Selenium | ND | | 14 | 4.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Silver | ND | | 5.6 | 0.67 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Sodium | 200 | J | 560 | 190 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Tantalum | ND | | 28 | 4.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 16:51 | 50 |
| Thallium | ND | | 14 | 4.3 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Vanadium | ND | | 28 | 21 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |
| Zinc | 160 | | 140 | 37 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:23 | 50 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.071 | | 0.038 | 0.013 | mg/Kg | ✉ | 04/20/16 09:52 | 04/20/16 17:08 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 64 | 7.0 | mg/Kg | ✉ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-16 19-20

Lab Sample ID: 160-16964-8

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.54 | | 0.13 | 0.0053 | mg/L | ✉ | 04/26/16 11:40 | 05/18/16 22:49 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| pH | 7.11 | | 0.100 | 0.100 | SU | ✉ | 04/20/16 23:21 | 04/21/16 19:46 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|--------------------|--------------------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | |
| Actinium-227 | 71.8 | | 7.31 | 10.7 | 12.8 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Americium-241 | -1.24 | U | 2.50 | 2.51 | 3.35 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Cesium-137 | -0.844 | U | 0.761 | 0.766 | 1.08 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Cobalt-60 | 0.191 | U | 0.166 | 0.167 | 0.798 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Potassium-40 | 2.94 | U | 5.39 | 5.39 | 9.07 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Protactinium-231 | 70.5 | | 13.7 | 15.7 | 19.8 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 19-20

Date Collected: 04/15/16 11:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-8

Matrix: Solid

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|-----------------|-----------------|------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 142 | | 3.53 | 15.1 | 1.41 | 0.678 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Pb-210 | 309 | | 26.8 | 45.1 | 29.0 | 14.3 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Pb-212 | 2.90 | | 0.902 | 0.977 | 1.41 | 0.692 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Pb-214 | 180 | | 3.87 | 19.1 | 2.06 | 1.01 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Th-227 | 71.8 | | 7.31 | 10.7 | 12.8 | 6.31 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| Th-234 | 119 | | 22.5 | 25.7 | 26.5 | 13.1 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |
| U-235 | 58.6 | | 5.02 | 7.79 | 5.27 | 2.60 | pCi/g | 04/19/16 14:42 | 04/19/16 20:15 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|-----------------|-----------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 17.5 | U | 57.7 | 57.8 | 99.0 | 46.4 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Americium-241 | 3.83 | U | 11.7 | 11.7 | 20.1 | 9.40 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Cesium-137 | -2.49 | U | 9.16 | 9.16 | 16.2 | 7.27 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Cobalt-60 | 0.990 | U | 3.50 | 3.51 | 6.79 | 2.15 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Potassium-40 | -4.69 | U | 101 | 101 | 194 | 84.5 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Protactinium-231 | 0.000 | U | 133 | 133 | 329 | 151 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 87.1 | | 27.4 | 28.8 | 27.9 | 12.6 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |
| Pb-214 | 137 | | 26.0 | 29.6 | 22.0 | 9.91 | pCi/L | 04/22/16 14:32 | 04/25/16 10:02 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 273 | | 2.31 | 24.7 | 0.0736 | 0.0295 | pCi/g | 04/19/16 15:37 | 05/12/16 07:10 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 110 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:10 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 36.7 | | 0.812 | 3.40 | 0.0946 | 0.0406 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 67.5 | | 40 - 110 | | | | | 04/25/16 11:22 | 05/17/16 07:37 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 2.51 | | 0.376 | 0.442 | 0.378 | 0.175 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 110 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 19-20

Date Collected: 04/15/16 11:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-8

Matrix: Solid

Method: 904.0 - Radium-228 (GFPC) (Continued)

| Carrier | %Yield | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|----------|----------------|----------------|---------|
| Y Carrier | 92.0 | | 40 - 110 | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.514 | | 0.364 | 0.367 | 0.572 | 0.266 | pCi/L | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | | |
| Ba Carrier | 67.5 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Y Carrier | 92.0 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 4.89 | | 0.404 | 0.576 | 0.0756 | 0.0253 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 7420 | | 15.7 | 624 | 0.0402 | 0.00765 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 11.2 | | 0.610 | 1.12 | 0.0248 | 0.00761 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | | | |
| Thorium-229 | 86.7 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.707 | | 0.257 | 0.264 | 0.159 | 0.0461 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 42.5 | | 1.95 | 4.07 | 0.182 | 0.0575 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0181 | | 0.0452 | 0.0453 | 0.101 | 0.0173 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | | | |
| Thorium-229 | 91.7 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 115 | | 3.77 | 10.4 | 0.176 | 0.0416 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 5.87 | | 0.952 | 1.07 | 0.200 | 0.0422 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 116 | | 3.79 | 10.5 | 0.0925 | 0.0239 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | | | |
| Uranium-232 | 34.1 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 396 | | 5.08 | 33.6 | 0.263 | 0.107 | pCi/L | 04/29/16 09:32 | 05/06/16 12:42 | 1 |
| Uranium-235/236 | 20.8 | | 1.30 | 2.18 | 0.0608 | 0.0471 | pCi/L | 04/29/16 09:32 | 05/06/16 12:42 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 19-20

Date Collected: 04/15/16 11:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-8

Matrix: Solid

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP (Continued)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-238 | 406 | | 5.14 | 34.5 | 0.180 | 0.0655 | pCi/L | 04/29/16 09:32 | 05/06/16 12:42 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 21.9 | X | 30 - 110 | | | | | 04/29/16 09:32 | 05/06/16 12:42 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 446 | | 7.16 | 40.7 | 3.23 | 1.57 | pCi/g | 04/22/16 09:17 | 05/04/16 23:34 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 67.6 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/04/16 23:34 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 25.8 | | 1.80 | 2.94 | 2.08 | 1.01 | pCi/L | 05/09/16 17:09 | 05/17/16 05:39 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 87.0 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 05:39 | 1 |

Client Sample ID: AC-16 19-20

Date Collected: 04/15/16 11:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-8

Matrix: Solid

Percent Solids: 72.4

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 12 | | 1.4 | 0.20 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 09:12 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 6700 | | 680 | 68 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 09:29 | 100 |

Method: 6010B - Metals (ICP) - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Scandium | 9.9 | J D | 69 | 6.4 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/27/16 18:23 | 10 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 13000 | | 160 | 53 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Antimony | ND | | 16 | 2.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Arsenic | 200 | | 32 | 8.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Barium | 6500 | | 63 | 3.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Beryllium | 2.1 | J | 3.2 | 0.82 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Cadmium | 9.5 | | 1.6 | 0.50 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Calcium | 30000 | | 1600 | 180 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Chromium | 79 | | 32 | 14 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Cobalt | 1400 | | 6.3 | 1.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-16 19-20

Date Collected: 04/15/16 11:00

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-8

Matrix: Solid

Percent Solids: 72.4

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Copper | 4500 | | 32 | 3.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Iron | 210000 | B | 160 | 100 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Lead | 520 | | 9.5 | 3.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Magnesium | 10000 | | 1600 | 120 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Manganese | 2400 | | 16 | 2.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Nickel | 1700 | | 16 | 3.4 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Niobium | ND | | 79 | 12 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:56 | 50 |
| Potassium | 780 | | 320 | 95 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Selenium | 110 | | 16 | 5.0 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Silver | 2.0 | J | 6.3 | 0.76 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Sodium | 440 | J | 630 | 210 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Tantalum | ND | | 32 | 4.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:56 | 50 |
| Thallium | ND | | 16 | 4.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Vanadium | 710 | | 32 | 23 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |
| Zinc | 860 | | 160 | 42 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:50 | 50 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.22 | | 0.042 | 0.014 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:10 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 69 | 7.5 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-3 36-39

Lab Sample ID: 160-16964-9

Matrix: Solid

Date Collected: 04/15/16 13:30

Date Received: 04/15/16 15:30

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.86 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:40 | 05/18/16 22:53 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 8.05 | | 0.0999 | 0.0999 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:51 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | | Total | | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------------|-------------|-----------|---------|---------|---------|---------|-------|----------------|----------------|----------|---------|
| | | | Uncert. | (2σ+/-) | Uncert. | (2σ+/-) | | | | | |
| | | | (2σ+/-) | (2σ+/-) | (2σ+/-) | (2σ+/-) | | | | | |
| Actinium-227 | 0.203 | U | 0.543 | 0.543 | 0.944 | 0.426 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |
| Americium-241 | -0.0176 | U | 0.121 | 0.121 | 0.212 | 0.0980 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |
| Cesium-137 | 0.0164 | U | 0.0477 | 0.0478 | 0.0865 | 0.0363 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |
| Cobalt-60 | 0.0293 | U | 0.0280 | 0.0281 | 0.120 | 0.0501 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |
| Potassium-40 | 9.67 | | 1.77 | 2.03 | 1.28 | 0.538 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |
| Protactinium-231 | -0.109 | U | 0.264 | 0.264 | 2.58 | 1.17 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |

Other Detected

| Radionuclides | Result | Qualifier | Count | Total | Uncert. | Uncert. | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|-------|-------|---------|---------|-------|----------------|----------------|----------|---------|
| Bi-214 | 0.470 | | 0.159 | 0.167 | 0.156 | 0.0658 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 | |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 36-39

Date Collected: 04/15/16 13:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-9

Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Pb-212 | 0.539 | | 0.145 | 0.161 | 0.126 | 0.0562 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 |
| Pb-214 | 0.371 | | 0.142 | 0.147 | 0.135 | 0.0575 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 |
| Tl-208 | 0.210 | | 0.0752 | 0.0783 | 0.0710 | 0.0292 | pCi/g | 04/19/16 14:42 | 04/19/16 20:16 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------------|------------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.000 | U | 33.1 | 33.1 | 108 | 51.3 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |
| Americium-241 | 4.14 | U | 10.5 | 10.5 | 17.9 | 8.37 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |
| Cesium-137 | 0.000 | U | 2.85 | 2.85 | 12.8 | 5.72 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |
| Cobalt-60 | 0.000 | U | 2.15 | 2.15 | 15.9 | 6.92 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |
| Potassium-40 | 135 | | 88.4 | 89.4 | 120 | 49.7 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |
| Protactinium-231 | 23.6 | U | 60.0 | 60.1 | 281 | 129 | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|--------------------|--------------------|-----|-----|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Other Detected Radionuclide | None | | | | | | pCi/L | 04/22/16 14:32 | 04/25/16 09:58 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.437 | | 0.110 | 0.117 | 0.0935 | 0.0382 | pCi/g | 04/19/16 15:37 | 05/12/16 07:10 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 68.6 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:10 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 0.821 | | 0.145 | 0.162 | 0.0960 | 0.0395 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 51.0 | | 40 - 110 | | | | | 04/25/16 11:22 | 05/17/16 07:37 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.234 | | 0.305 | 0.306 | 0.507 | 0.233 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 68.6 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 93.1 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 36-39

Lab Sample ID: 160-16964-9

Date Collected: 04/15/16 13:30

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.922 | | 0.442 | 0.450 | 0.642 | 0.293 | pCi/L | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 51.0 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |
| Y Carrier | 88.2 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:07 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.686 | | 0.154 | 0.164 | 0.0775 | 0.0263 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 0.965 | | 0.180 | 0.197 | 0.0553 | 0.0152 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.368 | | 0.111 | 0.115 | 0.0398 | 0.00757 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 86.3 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.516 | | 0.232 | 0.236 | 0.215 | 0.0745 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.322 | | 0.171 | 0.173 | 0.115 | 0.0242 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0126 | U | 0.0333 | 0.0333 | 0.0658 | 0.0170 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 91.8 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.317 | | 0.127 | 0.130 | 0.0708 | 0.0167 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.0126 | | 0.0315 | 0.0315 | 0.0705 | 0.0120 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 0.299 | | 0.125 | 0.127 | 0.0804 | 0.0216 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | | | | | | | | | | |
| Uranium-232 | 79.6 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.288 | | 0.178 | 0.180 | 0.156 | 0.0397 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.000 | U | 0.0119 | 0.0119 | 0.0955 | 0.0247 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 0.281 | | 0.169 | 0.171 | 0.0766 | 0.0198 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | | | | | | | | | | |
| Uranium-232 | 81.2 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.
Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 36-39

Date Collected: 04/15/16 13:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-9

Matrix: Solid

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 1.21 | U | 3.65 | 3.65 | 6.10 | 2.98 | pCi/g | 04/22/16 09:17 | 05/05/16 00:40 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 34.8 | X | 40 - 110 | | | | | 04/22/16 09:17 | 05/05/16 00:40 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | -0.297 | U | 1.21 | 1.21 | 2.05 | 1.00 | pCi/L | 05/09/16 17:09 | 05/17/16 06:45 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 88.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 06:45 | 1 |

Client Sample ID: AC-3 36-39

Date Collected: 04/15/16 13:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-9

Matrix: Solid

Percent Solids: 37.8

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 1.4 | J | 2.6 | 0.38 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 09:46 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 1500 | | 66 | 6.6 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 10:03 | 5 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Scandium | 1.4 | J | 13 | 1.2 | mg/Kg | ✉ | 04/23/16 07:58 | 04/26/16 04:37 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 11000 | | 110 | 38 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Antimony | 4.4 | J | 11 | 1.5 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Arsenic | 21 | J | 23 | 5.9 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Barium | 200 | | 46 | 2.1 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Beryllium | ND | | 2.3 | 0.59 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Cadmium | 5.6 | | 1.1 | 0.37 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Calcium | 16000 | | 1100 | 130 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Chromium | 50 | | 23 | 10 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Cobalt | 11 | | 4.6 | 0.98 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Copper | 280 | | 23 | 2.3 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Iron | 86000 | B | 110 | 75 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Lead | 870 | | 6.8 | 2.3 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Magnesium | 4000 | | 1100 | 87 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Manganese | 12000 | | 11 | 1.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Nickel | 39 | | 11 | 2.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Niobium | ND | ^ | 57 | 8.7 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 17:13 | 20 |
| Potassium | 2300 | | 230 | 68 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 36-39

Date Collected: 04/15/16 13:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-9

Matrix: Solid

Percent Solids: 37.8

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Selenium | ND | | 11 | 3.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Silver | 3.4 | J | 4.6 | 0.55 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Sodium | 2300 | | 460 | 150 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Tantalum | ND | ^ | 23 | 3.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 17:13 | 20 |
| Thallium | ND | | 11 | 3.5 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Vanadium | ND | | 23 | 17 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 01:57 | 20 |
| Zinc | 26000 | | 290 | 76 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 16:29 | 50 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.55 | | 0.083 | 0.028 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:12 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | 260 | | 130 | 14 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-1 19-20

Lab Sample ID: 160-16964-10

Matrix: Solid

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.75 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:40 | 05/18/16 22:58 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.75 | | 0.0999 | 0.0999 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:53 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|---------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 4.48 | | 1.07 | 1.18 | 2.34 | 1.14 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Americium-241 | -0.192 | U | 0.347 | 0.347 | 0.575 | 0.282 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Cesium-137 | 0.0155 | U | 0.0878 | 0.0878 | 0.153 | 0.0713 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Cobalt-60 | -0.0177 | U | 0.113 | 0.113 | 0.197 | 0.0913 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Potassium-40 | 5.79 | | 1.56 | 1.67 | 1.46 | 0.656 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Protactinium-231 | 7.45 | | 2.22 | 2.36 | 4.25 | 2.04 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Ac-228 | 1.01 | | 0.425 | 0.437 | 0.506 | 0.234 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Bi-214 | 16.4 | | 0.712 | 1.85 | 0.297 | 0.140 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Pb-210 | 23.1 | | 4.21 | 5.01 | 4.96 | 2.41 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| Pb-214 | 18.3 | | 0.731 | 2.04 | 0.404 | 0.195 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |
| U-235 | 4.71 | | 0.988 | 1.10 | 1.13 | 0.552 | pCi/g | 04/19/16 14:42 | 04/19/16 20:44 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-1 19-20

Lab Sample ID: 160-16964-10

Matrix: Solid

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | -21.7 | U | 59.9 | 59.9 | 102 | 48.1 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Americium-241 | 1.54 | U | 10.5 | 10.5 | 18.2 | 8.57 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Cesium-137 | 0.310 | U | 3.65 | 3.65 | 7.10 | 2.94 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Cobalt-60 | -2.73 | U | 8.42 | 8.43 | 15.0 | 6.57 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Potassium-40 | 7.35 | U | 75.3 | 75.3 | 157 | 69.4 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Protactinium-231 | 49.4 | U | 63.8 | 64.0 | 244 | 112 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |

Other Detected

| Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 93.2 | | 21.3 | 23.3 | 20.3 | 9.09 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Pb-214 | 55.7 | | 19.6 | 20.5 | 22.0 | 10.1 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 38.3 | | 0.819 | 3.54 | 0.0650 | 0.0259 | pCi/g | 04/19/16 15:37 | 05/12/16 07:11 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 99.9 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:11 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 12.4 | | 0.525 | 1.24 | 0.0874 | 0.0355 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 53.8 | | 40 - 110 | | | | | 04/25/16 11:22 | 05/17/16 07:37 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.373 | | 0.235 | 0.237 | 0.359 | 0.165 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 99.9 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 87.9 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.722 | | 0.374 | 0.380 | 0.543 | 0.245 | pCi/L | 04/25/16 11:57 | 05/01/16 14:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 53.8 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:08 | 1 |
| Y Carrier | 89.0 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:08 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-1 19-20

Lab Sample ID: 160-16964-10

Matrix: Solid

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|---------------|------------------|--------------------|--------------------|--------|---------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.898 | | 0.173 | 0.189 | 0.0871 | 0.0317 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 1350 | | 6.55 | 114 | 0.0383 | 0.00728 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 1.92 | | 0.246 | 0.295 | 0.0381 | 0.00725 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 99.0 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|---------------|------------------|--------------------|--------------------|-------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.242 | | 0.171 | 0.172 | 0.211 | 0.0717 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 3.44 | | 0.557 | 0.627 | 0.116 | 0.0246 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | -0.00836 | U | 0.0118 | 0.0118 | 0.116 | 0.0245 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 84.9 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|---------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 3.69 | | 0.416 | 0.519 | 0.0666 | 0.0157 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.117 | | 0.0824 | 0.0830 | 0.0437 | 0.0113 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 4.12 | | 0.439 | 0.559 | 0.0350 | 0.00907 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 82.0 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|-------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 8.95 | | 0.993 | 1.25 | 0.235 | 0.0765 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.323 | | 0.228 | 0.230 | 0.251 | 0.0746 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 6.92 | | 0.869 | 1.05 | 0.124 | 0.0212 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 74.9 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 252 | | 5.48 | 23.3 | 3.18 | 1.55 | pCi/g | 04/22/16 09:17 | 05/05/16 01:46 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 66.8 | | 40 - 110 | | | | | 04/22/16 09:17 | 05/05/16 01:46 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-1 19-20

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-10

Matrix: Solid

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 10.4 | | 1.59 | 1.85 | 2.25 | 1.10 | pCi/L | 05/09/16 17:09 | 05/17/16 07:51 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 80.7 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 07:51 | 1 |

Client Sample ID: AC-1 19-20

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-10

Matrix: Solid

Percent Solids: 74.5

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 3.2 | | 1.3 | 0.19 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 10:19 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 1200 | | 34 | 3.4 | mg/Kg | ✉ | 05/11/16 10:50 | 05/14/16 10:36 | 5 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 1.6 | J | 6.7 | 0.62 | mg/Kg | ✉ | 04/23/16 07:58 | 04/26/16 04:42 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 6500 | | 58 | 19 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Antimony | ND | | 5.8 | 0.75 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Arsenic | 21 | | 12 | 3.0 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Barium | 830 | | 23 | 1.1 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Beryllium | 0.82 | J | 1.2 | 0.30 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Cadmium | 1.1 | | 0.58 | 0.18 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Calcium | 140000 | | 580 | 67 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Chromium | 30 | | 12 | 5.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Cobalt | 24 | | 2.3 | 0.50 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Copper | 44 | | 12 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Iron | 38000 | B | 58 | 38 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Lead | 53 | | 3.5 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Magnesium | 20000 | | 580 | 44 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Manganese | 350 | | 5.8 | 0.89 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Nickel | 71 | | 5.8 | 1.2 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Niobium | ND | ^ | 29 | 4.4 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 17:18 | 20 |
| Potassium | 1800 | | 120 | 35 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Selenium | 4.1 | J | 5.8 | 1.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Silver | 0.34 | J | 2.3 | 0.28 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Sodium | 1300 | | 230 | 77 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Tantalum | ND | ^ | 12 | 1.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 17:18 | 20 |
| Thallium | ND | | 5.8 | 1.8 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Vanadium | 11 | J | 12 | 8.5 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |
| Zinc | 140 | | 58 | 15 | mg/Kg | ✉ | 04/19/16 10:58 | 05/11/16 02:03 | 20 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-1 19-20

Date Collected: 04/15/16 13:45

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-10

Matrix: Solid

Percent Solids: 74.5

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.042 | | 0.039 | 0.013 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:14 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | ND | | 67 | 7.2 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-3 9-10

Date Collected: 04/15/16 14:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-11

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 0.87 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:40 | 05/18/16 23:03 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| pH | 7.81 | | 0.0998 | 0.0998 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:56 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|---------|---------|-------|-------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Actinium-227 | 19.5 | | 3.07 | 3.74 | 6.13 | 3.01 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Americium-241 | -0.136 | U | 2.10 | 2.10 | 1.66 | 0.821 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Cesium-137 | 0.289 | | 0.167 | 0.169 | 0.254 | 0.117 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Cobalt-60 | 0.0427 | U | 0.0754 | 0.0755 | 0.496 | 0.233 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Potassium-40 | 6.29 | | 3.08 | 3.15 | 4.60 | 2.14 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Protactinium-231 | 15.4 | | 6.75 | 6.96 | 10.5 | 5.11 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |

Other Detected

| Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|---------|---------|-------|-------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Bi-214 | 74.6 | | 2.11 | 8.04 | 0.837 | 0.401 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Pb-210 | 101 | | 11.3 | 16.4 | 13.1 | 6.42 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Pb-214 | 82.9 | | 1.74 | 8.79 | 1.05 | 0.510 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| Th-227 | 19.5 | | 3.07 | 3.74 | 6.13 | 3.01 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |
| U-235 | 20.0 | | 2.62 | 3.31 | 2.96 | 1.46 | pCi/g | 04/19/16 14:42 | 04/19/16 20:47 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|--------|-----------|---------|---------|------|------|-------|----------------|----------------|---------|
| | | | (2σ+/-) | (2σ+/-) | | | | | | |
| Actinium-227 | 0.995 | U | 49.3 | 49.3 | 87.4 | 40.6 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Americium-241 | 15.7 | | 11.3 | 11.4 | 15.4 | 7.07 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Cesium-137 | 0.211 | U | 6.81 | 6.81 | 12.8 | 5.58 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Cobalt-60 | 1.62 | U | 3.93 | 3.93 | 25.4 | 11.4 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Potassium-40 | 10.8 | U | 97.8 | 97.8 | 204 | 89.3 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Protactinium-231 | 15.5 | U | 156 | 156 | 280 | 127 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 9-10

Lab Sample ID: 160-16964-11

Matrix: Solid

Date Collected: 04/15/16 14:30

Date Received: 04/15/16 15:30

| Other Detected Radionuclides | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------------------|--------|-----------|-----------------|-----------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 52.8 | | 18.6 | 19.4 | 20.4 | 8.78 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |
| Pb-214 | 83.0 | | 23.5 | 25.0 | 23.0 | 10.4 | pCi/L | 04/22/16 14:32 | 04/25/16 11:06 | 1 |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 141 | | 1.70 | 12.8 | 0.118 | 0.0513 | pCi/g | 04/19/16 15:37 | 05/12/16 07:11 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 122 | X | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:11 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 46.0 | | 0.921 | 4.24 | 0.0731 | 0.0297 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 67.0 | | 40 - 110 | | | | | 04/25/16 11:22 | 05/17/16 07:37 | 1 |

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.289 | | 0.217 | 0.218 | 0.340 | 0.155 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 122 | X | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 89.3 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------|-----------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.839 | | 0.332 | 0.341 | 0.455 | 0.207 | pCi/L | 04/25/16 11:57 | 05/01/16 14:08 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 67.0 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:08 | 1 |
| Y Carrier | 89.0 | | 40 - 110 | | | | | 04/25/16 11:57 | 05/01/16 14:08 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|-----------------|-----------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 1.29 | | 0.208 | 0.235 | 0.0905 | 0.0332 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 4130 | | 11.5 | 347 | 0.0242 | 0.00742 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 4.02 | | 0.359 | 0.493 | 0.0388 | 0.00738 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 90.1 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.164 | | 0.144 | 0.145 | 0.196 | 0.0647 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 5.78 | | 0.718 | 0.866 | 0.0669 | 0.0173 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | 0.0444 | | 0.0628 | 0.0629 | 0.0666 | 0.0172 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 84.8 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|---------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 8.10 | | 0.593 | 0.903 | 0.0617 | 0.0146 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.308 | | 0.130 | 0.132 | 0.0615 | 0.0105 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 7.45 | | 0.568 | 0.845 | 0.0325 | 0.00841 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 87.6 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|-------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 17.5 | | 1.37 | 2.01 | 0.173 | 0.0465 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.800 | | 0.327 | 0.333 | 0.100 | 0.0259 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 17.0 | | 1.35 | 1.97 | 0.122 | 0.0207 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 75.6 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 115 | | 3.78 | 11.0 | 2.94 | 1.43 | pCi/g | 04/22/16 09:17 | 04/30/16 10:09 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 69.3 | | 40 - 110 | | | | | 04/22/16 09:17 | 04/30/16 10:09 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 11.4 | | 1.55 | 1.86 | 2.15 | 1.05 | pCi/L | 05/09/16 17:09 | 05/17/16 08:58 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 84.3 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 08:58 | 1 |

Client Sample ID: AC-3 9-10

Date Collected: 04/15/16 14:30

Date Received: 04/15/16 15:30

Lab Sample ID: 160-16964-11

Matrix: Solid

Percent Solids: 84.7

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | 3.5 | | 1.2 | 0.17 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 10:53 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Sulfate | 1200 | | 30 | 3.0 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 11:10 | 5 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Scandium | 0.95 | J | 5.8 | 0.54 | mg/Kg | ⊗ | 04/23/16 07:58 | 04/26/16 04:54 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 5300 | | 140 | 45 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Antimony | 2.5 | J | 14 | 1.8 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Arsenic | 7.2 | J | 27 | 7.1 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Barium | 8100 | | 54 | 2.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Beryllium | ND | | 2.7 | 0.71 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Cadmium | 3.6 | | 1.4 | 0.43 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Calcium | 270000 | | 1400 | 160 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Chromium | 66 | | 27 | 12 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Cobalt | 19 | | 5.4 | 1.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Copper | 780 | | 27 | 2.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Iron | 12000 | B | 140 | 90 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Lead | 410 | | 8.2 | 2.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Magnesium | 32000 | | 1400 | 100 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Manganese | 380 | | 14 | 2.1 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Nickel | 41 | | 14 | 2.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Niobium | ND | ^ | 68 | 10 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 17:22 | 50 |
| Potassium | 1100 | | 270 | 82 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Selenium | ND | | 14 | 4.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Silver | ND | | 5.4 | 0.65 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Sodium | 520 | J | 540 | 180 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Tantalum | ND | ^ | 27 | 4.2 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 17:22 | 50 |
| Thallium | ND | | 14 | 4.1 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Vanadium | ND | | 27 | 20 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |
| Zinc | 220 | | 140 | 36 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:10 | 50 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.085 | | 0.035 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:15 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO3 | ND | | 59 | 6.4 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 6010C - Metals (ICP) - TCLP

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|--------|------|---|----------------|----------------|---------|
| Barium | 1.1 | | 0.13 | 0.0053 | mg/L | ⊗ | 04/26/16 11:40 | 05/18/16 23:07 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| pH | 8.32 | | 0.100 | 0.100 | SU | ⊗ | 04/20/16 23:21 | 04/21/16 19:58 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------|--------------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | 0.718 | | 0.761 | 0.765 | 1.23 | 0.562 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Americium-241 | 0.0349 | U | 0.185 | 0.185 | 0.329 | 0.155 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Cesium-137 | -0.00693 | U | 0.107 | 0.107 | 0.155 | 0.0679 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Cobalt-60 | -0.00208 | U | 0.0215 | 0.0215 | 0.205 | 0.0881 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Potassium-40 | 10.1 | | 2.23 | 2.46 | 1.65 | 0.674 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Protactinium-231 | 0.484 | U | 0.751 | 0.752 | 2.78 | 1.24 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Bi-214 | 0.475 | | 0.223 | 0.229 | 0.310 | 0.138 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Pb-212 | 0.711 | | 0.162 | 0.186 | 0.152 | 0.0680 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Pb-214 | 0.978 | | 0.204 | 0.228 | 0.173 | 0.0734 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |
| Tl-208 | 0.325 | | 0.0935 | 0.0994 | 0.0681 | 0.0255 | pCi/g | 04/19/16 14:42 | 04/19/16 20:48 | 1 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------------------|-------------|-----------|--------------------|--------------------|------|------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Actinium-227 | -0.154 | U | 47.2 | 47.2 | 83.3 | 38.8 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Americium-241 | 3.47 | U | 10.7 | 10.7 | 18.4 | 8.62 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Cesium-137 | 0.000 | U | 4.51 | 4.51 | 8.46 | 3.55 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Cobalt-60 | 1.66 | U | 5.44 | 5.45 | 10.2 | 4.09 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Potassium-40 | 91.3 | | 87.4 | 87.9 | 135 | 57.2 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Protactinium-231 | -42.7 | U | 166 | 166 | 288 | 133 | pCi/L | 04/22/16 14:32 | 04/25/16 11:04 | 1 |
| Other Detected | | | Count | Total | | | | | | |
| Radionuclides | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Other Detected Radionuclide | None | | | | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |

Method: 903.0 - Radium-226 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------------|-------------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 1.01 | | 0.144 | 0.170 | 0.0625 | 0.0239 | pCi/g | 04/19/16 15:37 | 05/12/16 07:11 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 83.8 | | 40 - 110 | | | | | 04/19/16 15:37 | 05/12/16 07:11 | 1 |

Method: 903.0 - Radium-226 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------------|-------------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-226 | 3.90 | | 0.307 | 0.466 | 0.107 | 0.0446 | pCi/L | 04/25/16 11:22 | 05/17/16 07:37 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 50.7 | | 40 - 110 | | | | | 04/25/16 11:22 | 05/17/16 07:37 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Method: 904.0 - Radium-228 (GFPC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 0.307 | | 0.241 | 0.242 | 0.378 | 0.171 | pCi/g | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 83.8 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |
| Y Carrier | 89.0 | | 40 - 110 | | | | | 04/19/16 16:26 | 05/05/16 12:48 | 1 |

Method: 904.0 - Radium-228 (GFPC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Radium-228 | 1.89 | | 0.526 | 0.554 | 0.665 | 0.305 | pCi/L | 04/25/16 11:58 | 05/01/16 14:08 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 50.7 | | 40 - 110 | | | | | 04/25/16 11:58 | 05/01/16 14:08 | 1 |
| Y Carrier | 89.3 | | 40 - 110 | | | | | 04/25/16 11:58 | 05/01/16 14:08 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|--------|-----------|--------------------|--------------------|--------|---------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 1.04 | | 0.183 | 0.203 | 0.0849 | 0.0309 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 2.02 | | 0.250 | 0.302 | 0.0373 | 0.00709 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.844 | | 0.161 | 0.176 | 0.0230 | 0.00706 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 99.1 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------|---------|-----------|--------------------|--------------------|-------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Thorium-228 | 0.365 | | 0.207 | 0.209 | 0.230 | 0.0809 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-230 | 0.221 | | 0.145 | 0.146 | 0.118 | 0.0250 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Thorium-232 | -0.0127 | U | 0.0147 | 0.0147 | 0.129 | 0.0304 | pCi/L | 04/29/16 09:32 | 05/09/16 15:20 | 1 |
| Tracer | | | | | | | | | | |
| Thorium-229 | 90.9 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|--------|-----------|--------------------|--------------------|--------|--------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.637 | | 0.179 | 0.187 | 0.0704 | 0.0166 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-235/236 | 0.0308 | | 0.0436 | 0.0436 | 0.0462 | 0.0120 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Uranium-238 | 0.687 | | 0.185 | 0.194 | 0.0642 | 0.0136 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 |
| Tracer | | | | | | | | | | |
| Uranium-232 | 84.3 | | 30 - 110 | | | | | 04/22/16 08:51 | 05/05/16 10:39 | 1 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

TestAmerica Job ID: 160-16964-1

Project/Site: Westlake Landfill Phase 1D Investigation

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.183 | | 0.128 | 0.129 | 0.110 | 0.0233 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-235/236 | 0.000 | U | 0.00992 | 0.00992 | 0.0793 | 0.0205 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Uranium-238 | 0.268 | | 0.153 | 0.155 | 0.110 | 0.0233 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 |
| Tracer | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 89.4 | | 30 - 110 | | | | | 04/29/16 09:32 | 05/05/16 10:47 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC)

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.269 | U | 1.60 | 1.60 | 2.68 | 1.31 | pCi/g | 04/22/16 09:17 | 04/30/16 11:15 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 74.7 | | 40 - 110 | | | | | 04/22/16 09:17 | 04/30/16 11:15 | 1 |

Method: ST-RC-0211 - Lead-210 (LSC) - TCLP

| Analyte | Result | Qualifier | Count | Total | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|---------------|------------------|--------------------|--------------------|------|------|-------|-----------------|-----------------|----------------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | | |
| Lead-210 | 0.664 | U | 1.38 | 1.38 | 2.29 | 1.12 | pCi/L | 05/09/16 17:09 | 05/17/16 10:04 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | 79.3 | | 40 - 110 | | | | | 05/09/16 17:09 | 05/17/16 10:04 | 1 |

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Percent Solids: 81.1

Method: 9056A - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Fluoride | 1.4 | | 1.2 | 0.18 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 11:27 | 1 |

Method: 9056A - Anions, Ion Chromatography - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|--------------------|-----|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Sulfate | 330 | | 31 | 3.1 | mg/Kg | ⊗ | 05/11/16 10:50 | 05/14/16 11:44 | 5 |

Method: 6010B - Metals (ICP)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------------------|------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Scandium | 2.5 | J | 6.0 | 0.56 | mg/Kg | ⊗ | 04/23/16 07:58 | 05/10/16 23:11 | 1 |

Method: 6020A - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|--------------------|-------|-------|---|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | | | | | | |
| Aluminum | 5600 | | 15 | 4.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Antimony | 0.64 | J F2 F1 | 1.5 | 0.19 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Arsenic | 7.7 | | 2.9 | 0.76 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Barium | 110 | F1 | 5.8 | 0.27 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Beryllium | 0.41 | | 0.29 | 0.076 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Cadmium | 0.28 | | 0.15 | 0.047 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Calcium | 20000 | F2 | 150 | 17 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |

TestAmerica St. Louis

Client Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Client Sample ID: AC-3 14-19

Lab Sample ID: 160-16964-12

Date Collected: 04/15/16 14:45

Matrix: Solid

Date Received: 04/15/16 15:30

Percent Solids: 81.1

Method: 6020A - Metals (ICP/MS) (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Chromium | 12 | | 2.9 | 1.3 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Cobalt | 8.5 | | 0.58 | 0.13 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Copper | 38 | F2 F1 | 2.9 | 0.29 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Iron | 12000 | B | 15 | 9.6 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Lead | 40 | F2 F1 | 0.87 | 0.29 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Magnesium | 9200 | | 150 | 11 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Manganese | 520 | | 1.5 | 0.22 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Nickel | 21 | | 1.5 | 0.31 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Niobium | ND | ^ | 7.3 | 1.1 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 17:27 | 5 |
| Potassium | 1600 | F1 | 29 | 8.7 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Selenium | 2.3 | | 1.5 | 0.46 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Silver | ND | | 0.58 | 0.070 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Sodium | 970 | | 58 | 19 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Tantalum | ND | F1 F2 ^ | 2.9 | 0.45 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 17:27 | 5 |
| Thallium | ND | | 1.5 | 0.44 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Vanadium | 17 | | 2.9 | 2.1 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |
| Zinc | 340 | F2 F1 | 15 | 3.9 | mg/Kg | ⊗ | 04/19/16 10:58 | 05/11/16 02:17 | 5 |

Method: 7471B - Mercury (CVAA)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|-------|-------|---|----------------|----------------|---------|
| Mercury | 0.060 | | 0.037 | 0.012 | mg/Kg | ⊗ | 04/20/16 09:52 | 04/20/16 17:17 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| Carbonate Alkalinity as CaCO ₃ | 250 | | 62 | 6.7 | mg/Kg | ⊗ | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

QC Sample Results

Client: Engineering Management Support, Inc.
Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 160-249027/1-A

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------------|-----------------|-----|------|-------|---|----------------|----------------|---------|
| Fluoride | ND | | 1.0 | 0.14 | mg/Kg | | 05/11/16 10:50 | 05/14/16 02:26 | 1 |
| Sulfate | ND | | 5.0 | 0.50 | mg/Kg | | 05/11/16 10:50 | 05/14/16 02:26 | 1 |

Lab Sample ID: LCS 160-249027/2-A

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec. | Limits |
|----------|--|----------------|---------------|------------------|-------|---|-------|----------|
| Fluoride | | 9.96 | 9.65 | | mg/Kg | | 97 | 80 - 120 |
| Sulfate | | 79.7 | 79.9 | | mg/Kg | | 100 | 80 - 120 |

Lab Sample ID: 160-16964-1 MS

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | Limits |
|----------|------------------|---------------------|----------------|--------------|-----------------|-------|---|-------|----------|
| Fluoride | 1.5 | | 25.0 | 27.0 | | mg/Kg | ⊗ | 102 | 80 - 123 |

Lab Sample ID: 160-16964-12 MS

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | Limits |
|----------|------------------|---------------------|----------------|--------------|-----------------|-------|---|-------|----------|
| Fluoride | 1.4 | | 24.6 | 23.8 | | mg/Kg | ⊗ | 91 | 80 - 123 |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|----------|------------------|---------------------|--|--------------|-----------------|-------|---|-----|-------|
| Fluoride | 1.5 | | | 1.45 | | mg/Kg | ⊗ | 6 | 30 |

Method: 9056A - Anions, Ion Chromatography - DL

Lab Sample ID: 160-16964-1 MS

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | Limits |
|--------------|------------------|---------------------|----------------|--------------|-----------------|-------|---|-------|----------|
| Sulfate - DL | 1700 | | 999 | 2670 | | mg/Kg | ⊗ | 101 | 75 - 121 |

Lab Sample ID: 160-16964-12 MS

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | Limits |
|--------------|------------------|---------------------|----------------|--------------|-----------------|-------|---|-------|----------|
| Sulfate - DL | 330 | | 246 | 569 | | mg/Kg | ⊗ | 97 | 75 - 121 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 9056A - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 250998

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 249027

| Analyte | Sample | Sample | DU | DU | Unit | D | RPD | Limit |
|--------------|--------|-----------|--------|-----------|-------|---|-----|-------|
| | Result | Qualifier | Result | Qualifier | | | | |
| Sulfate - DL | 1700 | | 1650 | | mg/Kg | ⊗ | 0.6 | 30 |

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 550-88083/1-A

Matrix: Solid

Analysis Batch: 88264

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88083

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Scandium | ND | | 5.0 | 0.46 | mg/Kg | | 04/23/16 07:58 | 04/26/16 03:38 | 1 |

Lab Sample ID: LCS 550-88083/2-A

Matrix: Solid

Analysis Batch: 88264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 88083

| Analyte | Spike | LCS | LCS | Unit | D | %Rec | %Rec. | Limits | RPD |
|----------|-------|--------|-----------|-------|---|------|----------|--------|-----|
| | Added | Result | Qualifier | | | | | | |
| Scandium | 49.8 | 52.2 | | mg/Kg | | 105 | 80 - 120 | | |

Lab Sample ID: LCSD 550-88083/3-A

Matrix: Solid

Analysis Batch: 88264

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 88083

| Analyte | Spike | LCSD | LCSD | Unit | D | %Rec | %Rec. | Limits | RPD |
|----------|-------|--------|-----------|-------|---|------|----------|--------|-----|
| | Added | Result | Qualifier | | | | | | |
| Scandium | 49.2 | 51.4 | | mg/Kg | | 104 | 80 - 120 | | 2 |

Lab Sample ID: 160-16964-1 MS

Matrix: Solid

Analysis Batch: 88264

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 88083

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Scandium | 2.5 | J | 61.5 | 62.7 | | mg/Kg | ⊗ | 98 | 75 - 125 |

Lab Sample ID: 160-16964-1 MSD

Matrix: Solid

Analysis Batch: 88264

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 88083

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Scandium | 2.5 | J | 61.5 | 58.6 | | mg/Kg | ⊗ | 91 | 75 - 125 |

Method: 6010C - Metals (ICP)

Lab Sample ID: LCS 160-247945/2-A

Matrix: Solid

Analysis Batch: 251001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247945

| Analyte | Spike | LCS | LCS | Unit | D | %Rec | %Rec. | Limits | RPD |
|---------|-------|--------|-----------|------|---|------|----------|--------|-----|
| | Added | Result | Qualifier | | | | | | |
| Barium | 2.50 | 2.66 | ^ | mg/L | | 106 | 80 - 120 | | 7 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.
Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 160-247954/2-A

Matrix: Solid

Analysis Batch: 252009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247954

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec. | |
|---------|-------------|------------|---------------|------|-----|----------|--|
| Barium | 2.50 | 2.51 | | mg/L | 100 | 80 - 120 | |

Lab Sample ID: LB 160-246819/1-B

Matrix: Solid

Analysis Batch: 251001

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 247945

| Analyte | LB Result | LB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|-----------|--------------|------|--------|------|----------------|----------------|----------|---------|
| Barium | ND | ^ | 0.13 | 0.0053 | mg/L | 04/26/16 11:28 | 05/13/16 22:15 | | 1 |

Lab Sample ID: 160-16964-1 MS

Matrix: Solid

Analysis Batch: 251001

Client Sample ID: AC-16 11-14

Prep Type: TCLP

Prep Batch: 247945

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | |
|---------|---------------|------------------|-------------|-----------|--------------|------|----|----------|--|
| Barium | 0.95 | | 2.50 | 3.04 | | mg/L | 84 | 75 - 125 | |

Lab Sample ID: 160-16964-1 MSD

Matrix: Solid

Analysis Batch: 251001

Client Sample ID: AC-16 11-14

Prep Type: TCLP

Prep Batch: 247945

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec. | |
|---------|---------------|------------------|-------------|------------|---------------|------|----|----------|-----------|
| Barium | 0.95 | | 2.50 | 2.88 | | mg/L | 77 | 75 - 125 | RPD Limit |

Lab Sample ID: LB 160-246906/1-B

Matrix: Solid

Analysis Batch: 252009

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 247954

| Analyte | LB Result | LB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|-----------|--------------|------|--------|------|----------------|----------------|----------|---------|
| Barium | ND | | 0.13 | 0.0053 | mg/L | 04/26/16 11:40 | 05/18/16 22:09 | | 1 |

Lab Sample ID: 160-16964-7 MS

Matrix: Solid

Analysis Batch: 252009

Client Sample ID: AC-10 12-13

Prep Type: TCLP

Prep Batch: 247954

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | |
|---------|---------------|------------------|-------------|-----------|--------------|------|----|----------|--|
| Barium | 0.26 | | 2.50 | 2.75 | | mg/L | 99 | 75 - 125 | |

Lab Sample ID: 160-16964-7 MSD

Matrix: Solid

Analysis Batch: 252009

Client Sample ID: AC-10 12-13

Prep Type: TCLP

Prep Batch: 247954

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec. | |
|---------|---------------|------------------|-------------|------------|---------------|------|----|----------|-----------|
| Barium | 0.26 | | 2.50 | 2.71 | | mg/L | 98 | 75 - 125 | RPD Limit |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-246810/1-A

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 246810

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------------|-----------------|-------|-------|-------|---|----------------|----------------|---------|
| Aluminum | ND | | 4.2 | 1.4 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Antimony | ND | | 0.42 | 0.055 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Arsenic | ND | | 0.85 | 0.22 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Barium | ND | | 1.7 | 0.080 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Beryllium | ND | | 0.085 | 0.022 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Cadmium | ND | | 0.042 | 0.014 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Calcium | ND | | 42 | 4.9 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Chromium | ND | | 0.85 | 0.38 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Cobalt | ND | | 0.17 | 0.037 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Copper | ND | | 0.85 | 0.086 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Iron | 3.94 | J | 4.2 | 2.8 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Lead | ND | | 0.25 | 0.085 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Magnesium | ND | | 42 | 3.2 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Manganese | ND | | 0.42 | 0.065 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Nickel | ND | | 0.42 | 0.091 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Potassium | ND | | 8.5 | 2.5 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Selenium | ND | | 0.42 | 0.13 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Silver | ND | | 0.17 | 0.020 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Sodium | ND | | 17 | 5.7 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Thallium | ND | | 0.42 | 0.13 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Vanadium | ND | | 0.85 | 0.62 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |
| Zinc | ND | | 4.2 | 1.1 | mg/Kg | | 04/19/16 10:58 | 05/11/16 00:22 | 2 |

Lab Sample ID: MB 160-246810/1-A

Matrix: Solid

Analysis Batch: 250727

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 246810

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------------|-----------------|------|------|-------|---|----------------|----------------|---------|
| Niobium | ND | | 2.1 | 0.32 | mg/Kg | | 04/19/16 10:58 | 05/11/16 16:16 | 2 |
| Tantalum | ND | | 0.85 | 0.13 | mg/Kg | | 04/19/16 10:58 | 05/11/16 16:16 | 2 |

Lab Sample ID: LCS 160-246810/3-A

Matrix: Solid

Analysis Batch: 250727

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246810

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits |
|----------|----------------|---------------|------------------|-------|---|------|----------|
| Niobium | 4.45 | 4.81 | | mg/Kg | | 108 | 80 - 120 |
| Tantalum | 8.90 | 9.08 | | mg/Kg | | 102 | 75 - 125 |

Lab Sample ID: LCSSRM 160-246810/2-A

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246810

| Analyte | Spike Added | LCSSRM Result | LCSSRM Qualifier | Unit | D | %Rec | Limits |
|----------|----------------|------------------|---------------------|-------|---|------|-------------|
| Aluminum | 7460 | 6370 | | mg/Kg | | 85.4 | 37.3 - 162. |
| Antimony | | 88.8 | 58.6 | mg/Kg | | 66.0 | 22.0 - 259. |
| | | | | | | | 0 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 160-246810/2-A

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246810

%Rec.

| Analyte | Spike Added | LCSSRM Result | LCSSRM Qualifier | Unit | D | %Rec | Limits |
|-----------|-------------|---------------|------------------|-------|---|-------|-------------|
| Arsenic | 139 | 147 | | mg/Kg | | 105.6 | 70.4 - 140. |
| | | | | | | 3 | |
| Barium | 203 | 194 | | mg/Kg | | 95.3 | 73.4 - 127. |
| | | | | | | 1 | |
| Beryllium | 96.1 | 98.8 | | mg/Kg | | 102.8 | 74.5 - 125. |
| | | | | | | 9 | |
| Cadmium | 96.0 | 93.5 | | mg/Kg | | 97.4 | 73.2 - 127. |
| | | | | | | 1 | |
| Calcium | 6040 | 5880 | | mg/Kg | | 97.4 | 73.8 - 126. |
| | | | | | | 3 | |
| Chromium | 136 | 137 | | mg/Kg | | 100.9 | 69.9 - 129. |
| | | | | | | 4 | |
| Cobalt | 148 | 160 | | mg/Kg | | 107.8 | 74.3 - 125. |
| | | | | | | 0 | |
| Copper | 168 | 175 | | mg/Kg | | 104.3 | 75.6 - 125. |
| | | | | | | 0 | |
| Iron | 14100 | 12900 | | mg/Kg | | 91.2 | 35.0 - 165. |
| | | | | | | 2 | |
| Lead | 133 | 137 | | mg/Kg | | 102.7 | 72.9 - 127. |
| | | | | | | 8 | |
| Magnesium | 2800 | 2720 | | mg/Kg | | 97.1 | 65.0 - 135. |
| | | | | | | 0 | |
| Manganese | 297 | 315 | | mg/Kg | | 106.0 | 74.4 - 125. |
| | | | | | | 6 | |
| Nickel | 123 | 131 | | mg/Kg | | 106.2 | 73.1 - 128. |
| | | | | | | 5 | |
| Potassium | 2540 | 2390 | | mg/Kg | | 93.9 | 60.6 - 139. |
| | | | | | | 0 | |
| Selenium | 177 | 185 | | mg/Kg | | 104.7 | 67.8 - 131. |
| | | | | | | 6 | |
| Silver | 40.2 | 41.3 | | mg/Kg | | 102.7 | 66.2 - 134. |
| | | | | | | 1 | |
| Sodium | 761 | 742 | | mg/Kg | | 97.5 | 57.0 - 143. |
| | | | | | | 2 | |
| Thallium | 138 | 143 | | mg/Kg | | 103.5 | 68.1 - 131. |
| | | | | | | 9 | |
| Vanadium | 107 | 105 | | mg/Kg | | 97.9 | 66.4 - 133. |
| | | | | | | 6 | |
| Zinc | 189 | 204 | | mg/Kg | | 108.1 | 69.8 - 130. |
| | | | | | | 7 | |

Lab Sample ID: 160-16964-12 MS

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 246810

%Rec.

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | Limits |
|-----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|----------|
| Aluminum | 5600 | | 1170 | 12600 | 4 | mg/Kg | ⊗ | 595 | 75 - 125 |
| Antimony | 0.64 | J F2 F1 | 58.4 | 47.5 | | mg/Kg | ⊗ | 80 | 75 - 125 |
| Arsenic | 7.7 | | 117 | 126 | | mg/Kg | ⊗ | 101 | 75 - 125 |
| Barium | 110 | F1 | 117 | 246 | | mg/Kg | ⊗ | 115 | 75 - 125 |
| Beryllium | 0.41 | | 117 | 123 | E | mg/Kg | ⊗ | 105 | 75 - 125 |
| Cadmium | 0.28 | | 117 | 116 | | mg/Kg | ⊗ | 99 | 75 - 125 |
| Calcium | 20000 | F2 | 1170 | 17700 | 4 | mg/Kg | ⊗ | -201 | 75 - 125 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-16964-12 MS

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 246810

%Rec.

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | Limits | |
|-----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|--|
| | Result | Qualifier | Added | Result | Qualifier | | | | | |
| Chromium | 12 | | 117 | 141 | | mg/Kg | ⊗ | 111 | 75 - 125 | |
| Cobalt | 8.5 | | 117 | 127 | | mg/Kg | ⊗ | 101 | 75 - 125 | |
| Copper | 38 | F2 F1 | 117 | 208 | F1 | mg/Kg | ⊗ | 145 | 75 - 125 | |
| Iron | 12000 | B | 1170 | 14100 | 4 | mg/Kg | ⊗ | 219 | 75 - 125 | |
| Lead | 40 | F2 F1 | 117 | 210 | F1 | mg/Kg | ⊗ | 146 | 75 - 125 | |
| Magnesium | 9200 | | 1170 | 10300 | 4 | mg/Kg | ⊗ | 101 | 75 - 125 | |
| Manganese | 520 | | 117 | 621 | 4 | mg/Kg | ⊗ | 84 | 75 - 125 | |
| Nickel | 21 | | 117 | 138 | | mg/Kg | ⊗ | 100 | 75 - 125 | |
| Potassium | 1600 | F1 | 1170 | 3440 | F1 | mg/Kg | ⊗ | 162 | 75 - 125 | |
| Selenium | 2.3 | | 58.4 | 58.0 | | mg/Kg | ⊗ | 95 | 75 - 125 | |
| Silver | ND | | 23.3 | 23.1 | | mg/Kg | ⊗ | 99 | 75 - 125 | |
| Sodium | 970 | | 1170 | 2260 | | mg/Kg | ⊗ | 110 | 75 - 125 | |
| Thallium | ND | | 23.3 | 22.9 | | mg/Kg | ⊗ | 98 | 75 - 125 | |
| Vanadium | 17 | | 117 | 145 | | mg/Kg | ⊗ | 110 | 75 - 125 | |
| Zinc | 340 | F2 F1 | 117 | 719 | F1 | mg/Kg | ⊗ | 326 | 75 - 125 | |

Lab Sample ID: 160-16964-12 MS

Matrix: Solid

Analysis Batch: 250727

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 246810

%Rec.

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | Limits | |
|----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|--|
| | Result | Qualifier | Added | Result | Qualifier | | | | | |
| Niobium | ND | ^ | 5.84 | 5.43 | J ^ | mg/Kg | ⊗ | 93 | 75 - 125 | |
| Tantalum | ND | F1 F2 ^ | 11.7 | 1.10 | J F1 ^ | mg/Kg | ⊗ | 9 | 75 - 125 | |

Lab Sample ID: 160-16964-12 MSD

Matrix: Solid

Analysis Batch: 250405

Client Sample ID: AC-3 14-19

Prep Type: Total/NA

Prep Batch: 246810

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | Limits | RPD | Limit |
|-----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|-----|-------|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Aluminum | 5600 | | 1150 | 11900 | 4 | mg/Kg | ⊗ | 543 | 75 - 125 | 6 | 30 |
| Antimony | 0.64 | J F2 F1 | 57.5 | 263 | F1 F2 | mg/Kg | ⊗ | 456 | 75 - 125 | 139 | 30 |
| Arsenic | 7.7 | | 115 | 119 | | mg/Kg | ⊗ | 97 | 75 - 125 | 6 | 30 |
| Barium | 110 | F1 | 115 | 293 | F1 | mg/Kg | ⊗ | 158 | 75 - 125 | 17 | 30 |
| Beryllium | 0.41 | | 115 | 121 | E | mg/Kg | ⊗ | 105 | 75 - 125 | 1 | 30 |
| Cadmium | 0.28 | | 115 | 115 | | mg/Kg | ⊗ | 99 | 75 - 125 | 1 | 30 |
| Calcium | 20000 | F2 | 1150 | 24500 | 4 F2 | mg/Kg | ⊗ | 389 | 75 - 125 | 32 | 30 |
| Chromium | 12 | | 115 | 149 | | mg/Kg | ⊗ | 119 | 75 - 125 | 5 | 30 |
| Cobalt | 8.5 | | 115 | 125 | | mg/Kg | ⊗ | 102 | 75 - 125 | 1 | 30 |
| Copper | 38 | F2 F1 | 115 | 2710 | F1 F2 | mg/Kg | ⊗ | 2325 | 75 - 125 | 172 | 30 |
| Iron | 12000 | B | 1150 | 15100 | 4 | mg/Kg | ⊗ | 315 | 75 - 125 | 7 | 30 |
| Lead | 40 | F2 F1 | 115 | 287 | F1 F2 | mg/Kg | ⊗ | 215 | 75 - 125 | 31 | 30 |
| Magnesium | 9200 | | 1150 | 8470 | 4 | mg/Kg | ⊗ | -61 | 75 - 125 | 20 | 30 |
| Manganese | 520 | | 115 | 677 | 4 | mg/Kg | ⊗ | 133 | 75 - 125 | 9 | 30 |
| Nickel | 21 | | 115 | 135 | | mg/Kg | ⊗ | 98 | 75 - 125 | 3 | 30 |
| Potassium | 1600 | F1 | 1150 | 3240 | F1 | mg/Kg | ⊗ | 147 | 75 - 125 | 6 | 30 |
| Selenium | 2.3 | | 57.5 | 56.1 | | mg/Kg | ⊗ | 94 | 75 - 125 | 3 | 30 |
| Silver | ND | | 23.0 | 23.1 | | mg/Kg | ⊗ | 101 | 75 - 125 | 0 | 30 |
| Sodium | 970 | | 1150 | 2100 | | mg/Kg | ⊗ | 98 | 75 - 125 | 7 | 30 |
| Thallium | ND | | 23.0 | 22.8 | | mg/Kg | ⊗ | 99 | 75 - 125 | 0 | 30 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-16964-12 MSD

Matrix: Solid

Analysis Batch: 250405

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | Limits | RPD | Limit |
|----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|-----|-------|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Vanadium | 17 | | 115 | 143 | | mg/Kg | ⊗ | 110 | 75 - 125 | 2 | 30 |
| Zinc | 340 | F2 F1 | 115 | 461 | F2 | mg/Kg | ⊗ | 106 | 75 - 125 | 44 | 30 |

Lab Sample ID: 160-16964-12 MSD

Matrix: Solid

Analysis Batch: 250727

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | Limits | RPD | Limit |
|----------|--------|-----------|-------|--------|-----------|-------|---|------|----------|-----|-------|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Niobium | ND | ^ | 5.75 | 5.04 | J ^ | mg/Kg | ⊗ | 88 | 75 - 125 | 8 | 30 |
| Tantalum | ND | F1 F2 ^ | 11.5 | 2.39 | J F1 F2 ^ | mg/Kg | ⊗ | 21 | 75 - 125 | 74 | 30 |

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 160-246054/1-A

Matrix: Solid

Analysis Batch: 247100

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Mercury | ND | | 0.029 | 0.0098 | mg/Kg | | 04/14/16 12:04 | 04/20/16 16:38 | 1 |

Lab Sample ID: LCSSRM 160-246054/2-A

Matrix: Solid

Analysis Batch: 247100

| Analyte | Spike | LCSSRM | LCSSRM | Unit | D | %Rec | Limits | Dil Fac |
|---------|-------|--------|-----------|-------|---|------|-------------|---------|
| | Added | Result | Qualifier | | | | | |
| Mercury | 12.9 | 10.5 | | mg/Kg | | 81.5 | 51.2 - 148. | 1 |

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-247987/1-A

Matrix: Solid

Analysis Batch: 248477

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|--------|-----------|----|-----|-------|---|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Carbonate Alkalinity as CaCO ₃ | ND | | 50 | 5.4 | mg/Kg | | 04/26/16 16:58 | 04/28/16 13:45 | 1 |

Lab Sample ID: HLCs 160-247987/3-A

Matrix: Solid

Analysis Batch: 248477

| Analyte | Spike | HLCs | HLCs | Unit | D | %Rec | Limits | Dil Fac |
|---|-------|--------|-----------|-------|---|------|----------|---------|
| | Added | Result | Qualifier | | | | | |
| Alkalinity | 4020 | 3600 | | mg/Kg | | 90 | 90 - 110 | |
| Bicarbonate Alkalinity as CaCO ₃ | 4020 | 3600 | | mg/Kg | | 90 | 90 - 110 | |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.
Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 160-247987/2-A

Matrix: Solid

Analysis Batch: 248477

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247987

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits |
|---------------------------------|-------------|------------|---------------|-------|---|------|----------|
| Alkalinity | 2010 | 1820 | | mg/Kg | | 90 | 90 - 110 |
| Bicarbonate Alkalinity as CaCO3 | 2010 | 1820 | | mg/Kg | | 90 | 90 - 110 |

Lab Sample ID: 160-16964-1 MS

Matrix: Solid

Analysis Batch: 248477

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 247987

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | Limits |
|---------------------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|----------|
| Alkalinity | 400 | F1 | 1260 | 599 | F1 | mg/Kg | ⊗ | 16 | 75 - 125 |
| Bicarbonate Alkalinity as CaCO3 | 400 | F1 | 1260 | 599 | F1 | mg/Kg | ⊗ | 16 | 75 - 125 |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 248477

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 247987

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|-------------------------------|---------------|------------------|-----------|--------------|-------|---|-----|-------|
| Carbonate Alkalinity as CaCO3 | ND | | ND | | mg/Kg | ⊗ | NC | 30 |

Method: 9045D - pH

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 247194

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 246988

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| pH | 7.63 | | 7.665 | | SU | | 0.4 | 5 |

Lab Sample ID: LCS 160-247194/5

Matrix: Solid

Analysis Batch: 247194

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits |
|---------|-------------|------------|---------------|------|---|------|--------------|
| pH | 7.00 | 7.000 | | SU | | 100 | 99.0 - 101.0 |

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-246848/1-A

Matrix: Solid

Analysis Batch: 246867

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 246848

| Analyte | MB Result | MB Qualifier | Count | Total | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------------|-----------|--------------|---------|---------|--------|-------|----------------|----------------|---------|
| | | | Uncert. | (2σ+/-) | | | | | |
| Actinium-227 | -0.06493 | U | 0.349 | 0.349 | 0.628 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |
| Americium-241 | 0.05118 | | 0.0674 | 0.0676 | 0.111 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |
| Cesium-137 | -0.005721 | U | 0.0401 | 0.0401 | 0.0750 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |
| Cobalt-60 | 0.005644 | U | 0.0180 | 0.0180 | 0.122 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |
| Potassium-40 | -0.2594 | U | 0.908 | 0.908 | 1.10 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |
| Protactinium-231 | -0.02062 | U | 0.755 | 0.755 | 1.42 | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

| Other Detected Radionuclides | MB Result | MB Qualifier | Count | Total | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------------------------|--------------|-----------------|--------------------|--------------------|-----|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | | |
| Other Detected Radionuclide | None | | | | | pCi/g | 04/19/16 14:42 | 04/19/16 18:36 | 1 |

Lab Sample ID: LCS 160-246848/2-A

Matrix: Solid

Analysis Batch: 246868

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246848

| Analyte | Spike | LCS | | Total | | | | %Rec. | | Limits |
|---------------|-------|--------|------|--------------------|--------|--------|-------|-------|----------|--------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec | | |
| Americium-241 | 97.2 | 100.4 | | 10.6 | 1.18 | 0.585 | pCi/g | 103 | 87 - 116 | |
| Cesium-137 | 29.7 | 28.92 | | 3.12 | 0.290 | 0.138 | pCi/g | 97 | 87 - 120 | |
| Cobalt-60 | 17.5 | 17.20 | | 1.81 | 0.0587 | 0.0186 | pCi/g | 99 | 87 - 115 | |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 246872

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 246848

| Analyte | Sample | Sample | DU | | Total | | | | RER | | Limit |
|---------------------------------|----------|--------|----------|------|--------------------|--------|--------|-------|------|---|-------|
| | Result | Qual | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | RER | | |
| Actinium-227 | 0.000 | U | 0.1089 | U | 0.638 | 1.10 | 0.518 | pCi/g | 0.08 | 1 | |
| Americium-241 | 0.0573 | U | -0.07286 | U | 0.139 | 0.233 | 0.111 | pCi/g | 0.40 | 1 | |
| Cesium-137 | -0.00574 | U | 0.002008 | U | 0.0412 | 0.0770 | 0.0337 | pCi/g | 0.05 | 1 | |
| Cobalt-60 | 0.0131 | U | 0.000167 | U | 0.0508 | 0.0978 | 0.0418 | pCi/g | 0.13 | 1 | |
| Potassium-40 | 13.3 | | 11.78 | | 2.01 | 0.894 | 0.376 | pCi/g | 0.33 | 1 | |
| Protactinium-231 | 0.453 | U | 0.6970 | U | 0.968 | 1.60 | 0.720 | pCi/g | 0.15 | 1 | |
| Total | | | | | | | | | | | |
| Other Detected Radionuclides | Sample | Sample | DU | DU | Uncert. (2σ+/-) | MDC | DLC | Unit | RER | | Limit |
| Ac-228 | 0.646 | | 1.043 | | 0.269 | 0.220 | 0.0917 | pCi/g | 0.78 | 1 | |
| Bi-214 | 1.26 | | 1.381 | | 0.260 | 0.137 | 0.0601 | pCi/g | 0.23 | 1 | |
| Pb-212 | 0.922 | | 0.8163 | | 0.194 | 0.150 | 0.0706 | pCi/g | 0.26 | 1 | |
| Pb-214 | 1.19 | | 1.115 | | 0.213 | 0.120 | 0.0533 | pCi/g | 0.16 | 1 | |
| Tl-208 | 0.165 | | 0.3326 | | 0.0898 | 0.0682 | 0.0297 | pCi/g | 0.96 | 1 | |

Lab Sample ID: MB 160-247468/1-A

Matrix: Solid

Analysis Batch: 247502

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247468

| Analyte | MB | MB | Count | | Total | | | | Dil Fac | | |
|---------------------------------|--------|-----------|--------------------|---------|--------------------|------|-------|----------------|----------------|----------------|---------|
| | Result | Qualifier | Uncert. (2σ+/-) | (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | | |
| Actinium-227 | -2.572 | U | 52.3 | 52.3 | 91.4 | 42.9 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Americium-241 | 1.605 | U | 8.65 | 8.65 | 15.1 | 7.00 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Cesium-137 | 0.0000 | U | 1.26 | 1.26 | 7.16 | 2.97 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Cobalt-60 | 0.0000 | U | 1.91 | 1.91 | 17.4 | 7.78 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Potassium-40 | -30.13 | U | 167 | 167 | 140 | 60.5 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Protactinium-231 | 20.09 | U | 32.4 | 32.5 | 249 | 114 | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 | |
| Total | | | | | | | | | | | |
| Other Detected Radionuclides | MB | MB | Count | Total | Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Other Detected Radionuclide | Result | Qualifier | Uncert. (2σ+/-) | (2σ+/-) | MDC | DLC | Unit | pCi/L | 04/22/16 14:32 | 04/24/16 19:12 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: LCS 160-247468/2-A

Matrix: Solid

Analysis Batch: 247506

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247468

| Analyte | Spike Added | LCS | | Total | | DLC | Unit | %Rec | %Rec. Limits |
|---------------|----------------|--------|------|--------------------|------|------|-------|------|-----------------|
| | | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Americium-241 | 137000 | 128800 | | 14900 | 405 | 202 | pCi/L | 94 | 90 - 111 |
| Cesium-137 | 47900 | 48660 | | 4880 | 132 | 65.2 | pCi/L | 102 | 90 - 111 |
| Cobalt-60 | 44300 | 43850 | | 4340 | 67.1 | 32.7 | pCi/L | 99 | 89 - 110 |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 247685

Client Sample ID: AC-16 11-14

Prep Type: TCLP

Prep Batch: 247468

| Analyte | Sample | | DU | | Total | | DLC | Unit | RER | Limit |
|-----------------------|---------------|---------------|---------------|-------------|----------------------------|--------------|------------|--------------|------------|--------------|
| | Result | Qual | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Actinium-227 | -0.214 | U | -1.142 | U | 1.99 | 88.8 | 42.0 | pCi/L | 0.02 | 1 |
| Americium-241 | 10.5 | | -8.972 | U | 424 | 22.7 | 10.8 | pCi/L | 0.04 | 1 |
| Cesium-137 | -1.39 | U | 1.941 | U | 6.04 | 10.7 | 4.74 | pCi/L | 0.28 | 1 |
| Cobalt-60 | 0.764 | U | 0.0000 | U | 1.31 | 18.2 | 8.24 | pCi/L | 0.27 | 1 |
| Potassium-40 | -82.0 | U | -26.68 | U | 118 | 191 | 86.3 | pCi/L | 0.01 | 1 |
| Protactinium-231 | 17.4 | U | 18.95 | U | 123 | 218 | 99.3 | pCi/L | 0.01 | 1 |
| <i>Other Detected</i> | | <i>Sample</i> | | <i>DU</i> | | <i>Total</i> | | <i>RER</i> | | |
| <i>Radionuclides</i> | <i>Result</i> | <i>Qual</i> | <i>Result</i> | <i>Qual</i> | <i>Uncert. (2σ+/-)</i> | <i>MDC</i> | <i>DLC</i> | <i>Unit</i> | <i>RER</i> | <i>Limit</i> |
| <i>Other Detected</i> | <i>None</i> | | <i>None</i> | | | | | <i>pCi/L</i> | | |
| <i>Radionuclide</i> | | | | | | | | | | |

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-246855/1-A

Matrix: Solid

Analysis Batch: 250863

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 246855

| Analyte | MB | | Count | | Total | | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------------|---------------|------------------|--------------------|--------------------|--------|--------|-------|----------------|-----------------|-----------------|----------------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | | | | | | |
| Radium-226 | 0.01771 | U | 0.0426 | 0.0426 | 0.0773 | 0.0317 | pCi/g | 04/19/16 15:37 | 05/12/16 07:07 | 1 | |
| <i>Carrier</i> | | | | | | | | | | | |
| <i>Ba Carrier</i> | <i>%Yield</i> | <i>Qualifier</i> | <i>Limits</i> | | | | | | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| | 86.3 | | 40 - 110 | | | | | | 04/19/16 15:37 | 05/12/16 07:07 | 1 |

Lab Sample ID: LCS 160-246855/2-A

Matrix: Solid

Analysis Batch: 252885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246855

| Analyte | Spike | | LCS | | Total | | DLC | Unit | %Rec | %Rec. Limits |
|-------------------|---------------|------------------|---------------|------|--------------------|--------|--------|-------|------|-----------------|
| | Added | Result | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Radium-226 | 11.2 | 11.20 | 11.20 | | 1.09 | 0.0515 | 0.0199 | pCi/g | 100 | 65 - 140 |
| <i>Carrier</i> | | | | | | | | | | |
| <i>Ba Carrier</i> | <i>%Yield</i> | <i>Qualifier</i> | <i>Limits</i> | | | | | | | |
| | 82.6 | | 40 - 110 | | | | | | | |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 160-16964-5 DU

Matrix: Solid

Analysis Batch: 250863

Client Sample ID: AC-21 20-24

Prep Type: Total/NA

Prep Batch: 246855

| Analyte | Sample | Sample | DU | DU | Total | | RER | Limit |
|----------------|--------|--------|--------|------|--------------------|-------|--------|-------|
| | Result | Qual | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit |
| Radium-226 | 45.0 | | 45.16 | | 4.17 | 0.102 | 0.0438 | pCi/g |
| Carrier | | | | | | | | |
| Ba Carrier | 91.0 | | | | 40 - 110 | | | |

Lab Sample ID: MB 160-247175/1-A

Matrix: Solid

Analysis Batch: 250950

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247175

| Analyte | MB | MB | Count | Total | | | Prepared | Analyzed |
|----------------|---------|-----------|--------------------|--------------------|--------|--------|----------|-------------------------------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | DLC | Unit | Dil Fac |
| Radium-226 | 0.01808 | U | 0.0347 | 0.0347 | 0.0617 | 0.0249 | pCi/L | 04/21/16 15:11 05/13/16 07:41 |
| Carrier | | | | | | | | |
| Ba Carrier | 94.0 | | | 40 - 110 | | | | |

Lab Sample ID: LCS 160-247175/2-A

Matrix: Solid

Analysis Batch: 250950

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247175

| Analyte | Spike | LCS | LCS | Total | | | %Rec. | Limits |
|----------------|-------|--------|------|--------------------|--------|--------|-------|--------------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | |
| Radium-226 | 11.2 | 14.82 | | 1.42 | 0.0606 | 0.0243 | pCi/L | 133 68 - 137 |
| Carrier | | | | | | | | |
| Ba Carrier | 94.0 | | | 40 - 110 | | | | |

Lab Sample ID: LCSD 160-247175/3-A

Matrix: Solid

Analysis Batch: 250950

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 247175

| Analyte | Spike | LCSD | LCSD | Total | | | %Rec. | Limits |
|----------------|-------|--------|------|--------------------|--------|--------|-------|--------------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | |
| Radium-226 | 11.2 | 14.64 | | 1.40 | 0.0656 | 0.0268 | pCi/L | 131 68 - 137 |
| Carrier | | | | | | | | |
| Ba Carrier | 92.6 | | | 40 - 110 | | | | |

Lab Sample ID: MB 160-247638/1-A

Matrix: Solid

Analysis Batch: 251461

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247638

| Analyte | MB | MB | Count | Total | | | Prepared | Analyzed |
|------------|---------|-----------|--------------------|--------------------|--------|--------|----------|-------------------------------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | DLC | Unit | Dil Fac |
| Radium-226 | 0.04611 | | 0.0523 | 0.0525 | 0.0855 | 0.0368 | pCi/L | 04/25/16 11:22 05/17/16 07:36 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-247638/1-A

Matrix: Solid

Analysis Batch: 251461

| Carrier | MB %Yield | MB Qualifier | Limits |
|------------|--------------|-----------------|----------|
| Ba Carrier | 76.1 | | 40 - 110 |

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247638

Lab Sample ID: LCS 160-247638/2-A

Matrix: Solid

Analysis Batch: 251461

| Analyte | Spike Added | LCS | | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec. | Limits |
|------------|----------------|--------|------|-----------------------------|--------|--------|-------|-------|----------|
| | | Result | Qual | | | | | | |
| Radium-226 | 11.2 | 14.47 | | 1.39 | 0.0794 | 0.0339 | pCi/L | 130 | 68 - 137 |

| Carrier | LCS %Yield | LCS Qualifier | Limits |
|------------|---------------|------------------|----------|
| Ba Carrier | 79.5 | | 40 - 110 |

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247638

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-246863/1-A

Matrix: Solid

Analysis Batch: 249608

| Analyte | MB Result | MB Qualifier | Count | | Total | | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------------|-----------------|--------------------|--------------------|-------|-------|-------|-------|----------------|----------------|---------|
| | | | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | pCi/g | | | | | |
| Radium-228 | -0.08547 | U | 0.217 | 0.217 | 0.404 | 0.185 | 0.404 | pCi/g | 04/19/16 16:25 | 05/05/16 12:47 | 1 |

| Carrier | MB %Yield | MB Qualifier | Limits |
|------------|--------------|-----------------|----------|
| Ba Carrier | 86.3 | | 40 - 110 |
| Y Carrier | 91.6 | | 40 - 110 |

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 246863

Lab Sample ID: LCS 160-246863/2-A

Matrix: Solid

Analysis Batch: 249608

| Analyte | Spike Added | LCS | | Total | | DLC | Unit | %Rec. | Limits |
|------------|----------------|--------|------|--------------------|-------|-------|-------|-------|----------|
| | | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Radium-228 | 15.2 | 18.62 | | 1.97 | 0.431 | 0.197 | pCi/g | 122 | 61 - 139 |

| Carrier | LCS %Yield | LCS Qualifier | Limits |
|------------|---------------|------------------|----------|
| Ba Carrier | 82.6 | | 40 - 110 |
| Y Carrier | 90.1 | | 40 - 110 |

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 246863

Lab Sample ID: 160-16964-5 DU

Matrix: Solid

Analysis Batch: 249608

| Analyte | Sample | | DU | | Total | | DLC | Unit | RER | Limit |
|------------|--------|------|--------|------|--------------------|-------|-------|-------|------|-------|
| | Result | Qual | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Radium-228 | 0.677 | | 0.8539 | | 0.295 | 0.379 | 0.174 | pCi/g | 0.31 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 160-16964-5 DU

Matrix: Solid

Analysis Batch: 249608

Client Sample ID: AC-21 20-24

Prep Type: Total/NA

Prep Batch: 246863

| Carrier | DU DU | | Limits |
|------------|--------|-----------|----------|
| | %Yield | Qualifier | |
| Ba Carrier | 91.0 | | 40 - 110 |
| Y Carrier | 91.2 | | 40 - 110 |

Lab Sample ID: MB 160-247177/1-A

Matrix: Solid

Analysis Batch: 249010

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247177

| Analyte | MB MB | | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|-----------------------------|-----------------------------|----------|---------|-------|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | | |
| Radium-228 | 0.1088 | U | 0.248 | 0.248 | 0.423 | 0.197 | pCi/L | 04/21/16 15:32 | 05/03/16 11:58 | 1 |
| Carrier | | | | | | | | | | |
| Ba Carrier | 94.0 | | 40 - 110 | Prepared | Analyzed | Dil Fac | | | | |
| | 91.6 | | 40 - 110 | | | | | | | |

Lab Sample ID: LCS 160-247177/2-A

Matrix: Solid

Analysis Batch: 249010

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247177

| Analyte | Spike | | LCS Result | LCS Qual | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec | %Rec. Limits | |
|----------------|-------|------|---------------|-------------|-----------------------------|---------|-------|-------|------|-----------------|--|
| | Added | | | | | | | | | | |
| Radium-228 | | 15.2 | 18.70 | | 1.94 | 0.388 | 0.179 | pCi/L | 123 | 56 - 140 | |
| Carrier | | | | | | | | | | | |
| Ba Carrier | 94.0 | | 40 - 110 | Prepared | Analyzed | Dil Fac | | | | | |
| | 90.1 | | 40 - 110 | | | | | | | | |

Lab Sample ID: LCSD 160-247177/3-A

Matrix: Solid

Analysis Batch: 249010

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 247177

| Analyte | Spike | | LCSD Result | LCSD Qual | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec | %Rec. Limits | RER |
|----------------|-------|------|----------------|--------------|-----------------------------|---------|-------|-------|------|-----------------|------|
| | Added | | | | | | | | | | |
| Radium-228 | | 15.2 | 18.27 | | 1.89 | 0.401 | 0.186 | pCi/L | 120 | 56 - 140 | 0.11 |
| Carrier | | | | | | | | | | | |
| Ba Carrier | 92.6 | | 40 - 110 | Prepared | Analyzed | Dil Fac | | | | | |
| | 92.7 | | 40 - 110 | | | | | | | | |

Lab Sample ID: MB 160-247641/1-A

Matrix: Solid

Analysis Batch: 248651

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247641

| Analyte | MB MB | | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|-------|-------|-------|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | | |
| Radium-228 | 0.3758 | | 0.271 | 0.273 | 0.421 | 0.192 | pCi/L | 04/25/16 11:57 | 05/01/16 14:07 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-247641/1-A

Matrix: Solid

Analysis Batch: 248651

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247641

| Carrier | MB %Yield | MB Qualifier | Limits |
|------------|--------------|-----------------|----------|
| Ba Carrier | 76.1 | | 40 - 110 |
| Y Carrier | 86.0 | | 40 - 110 |

Prepared: 04/25/16 11:57

Analyzed: 05/01/16 14:07

Dil Fac: 1

Lab Sample ID: LCS 160-247641/2-A

Matrix: Solid

Analysis Batch: 248651

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247641

| Analyte | Spike Added | LCS | | LCS | | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec. | Limits |
|------------|----------------|--------|------|-----|--|-----------------------------|-------|-------|-------|-------|----------|
| | | Result | Qual | | | | | | | | |
| Radium-228 | 15.2 | 17.40 | | | | 1.86 | 0.415 | 0.189 | pCi/L | 114 | 56 - 140 |

| Carrier | MB %Yield | MB Qualifier | Limits |
|------------|--------------|-----------------|----------|
| Ba Carrier | 79.5 | | 40 - 110 |
| Y Carrier | 88.6 | | 40 - 110 |

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Lab Sample ID: MB 160-247319/1-A

Matrix: Solid

Analysis Batch: 250243

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247319

| Analyte | Result | MB | | Count | | Total | | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-------------|----------|--------------|-----------------|---------|---------|---------|---------|---------|-------|----------------|----------------|---------|
| | | MB %Yield | MB Qualifier | Uncert. | (2σ+/-) | Uncert. | (2σ+/-) | | | | | |
| Thorium-228 | 0.08603 | | | 0.0658 | | 0.0662 | 0.0885 | 0.0320 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-230 | 0.1230 | | | 0.0635 | | 0.0643 | 0.0246 | 0.00754 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |
| Thorium-232 | 0.002039 | U | | 0.0178 | | 0.0178 | 0.0505 | 0.0130 | pCi/g | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

| Tracer | MB %Yield | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-------------|--------------|-----------------|----------|----------------|----------------|---------|
| Thorium-229 | 87.7 | | 30 - 110 | 04/22/16 08:51 | 05/09/16 15:12 | 1 |

Lab Sample ID: LCS 160-247319/2-A

Matrix: Solid

Analysis Batch: 250244

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247319

| Analyte | Spike Added | LCS | | LCS | | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec. | Limits |
|-------------|----------------|--------|------|-----|--|-----------------------------|--------|--------|-------|-------|----------|
| | | Result | Qual | | | | | | | | |
| Thorium-230 | 24.5 | 23.08 | | | | 2.27 | 0.0931 | 0.0240 | pCi/g | 94 | 81 - 118 |
| Tracer | 93.1 | | | | | | | | | | |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry) (Continued)

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 250249

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 247319

| Analyte | Sample | Sample | DU | DU | Total | | | RER | Limit |
|-------------|--------|--------|--------|-----------|----------|--------|---------|-------|--------|
| | Result | Qual | Result | Qual | (2σ+/-) | MDC | DLC | | |
| Thorium-228 | 1.18 | | 1.150 | | 0.216 | 0.0741 | 0.0252 | pCi/g | 0.06 1 |
| Thorium-230 | 5.38 | | 5.408 | | 0.615 | 0.0384 | 0.00729 | pCi/g | 0.02 1 |
| Thorium-232 | 0.876 | | 1.031 | | 0.200 | 0.0237 | 0.00726 | pCi/g | 0.41 1 |
| Tracer | DU | DU | %Yield | Qualifier | Limits | | | | |
| Thorium-229 | 89.2 | | | | 30 - 110 | | | | |

Lab Sample ID: MB 160-248577/1-A

Matrix: Solid

Analysis Batch: 250262

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 248577

| Analyte | MB | MB | Count | Total | Prepared | | Dil Fac | |
|-------------|---------|-----------|--------------------|--------------------|----------|----------------|----------------|---------------------------------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | | | | |
| Thorium-228 | 0.1285 | | 0.122 | 0.122 | 0.161 | 0.0464 | pCi/L | 04/29/16 09:32 05/09/16 15:20 1 |
| Thorium-230 | 0.2493 | | 0.165 | 0.166 | 0.179 | 0.0555 | pCi/L | 04/29/16 09:32 05/09/16 15:20 1 |
| Thorium-232 | 0.03045 | | 0.0565 | 0.0565 | 0.102 | 0.0175 | pCi/L | 04/29/16 09:32 05/09/16 15:20 1 |
| Tracer | MB | MB | %Yield | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 86.7 | | | | 30 - 110 | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Lab Sample ID: LCS 160-248577/2-A

Matrix: Solid

Analysis Batch: 250263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 248577

| Analyte | Spike | LCS | LCS | Total | %Rec. | | | |
|-------------|-------|--------|--------|--------------------|----------|----------------|----------------|--------------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | |
| Thorium-230 | 8.02 | 8.637 | | 1.13 | 0.0989 | 0.0169 | pCi/L | 108 81 - 125 |
| Tracer | LCS | LCS | %Yield | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 91.1 | | | | 30 - 110 | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

Lab Sample ID: LCSD 160-248577/3-A

Matrix: Solid

Analysis Batch: 250264

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 248577

| Analyte | Spike | LCSD | LCSD | Total | %Rec. | | | |
|-------------|-------|--------|--------|--------------------|----------|----------------|----------------|--------------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | DLC | Unit | |
| Thorium-230 | 8.02 | 9.010 | | 1.18 | 0.0677 | 0.0175 | pCi/L | 112 81 - 125 |
| Tracer | LCSD | LCSD | %Yield | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| Thorium-229 | 90.7 | | | | 30 - 110 | 04/29/16 09:32 | 05/09/16 15:20 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-247614/1-A

Matrix: Solid

Analysis Batch: 249653

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247614

| Analyte | MB | | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|----------|-----------|-----------------------------|-----------------------------|---------|--------|-------|----------------|----------------|----------|---------|
| | Result | Qualifier | | (2σ+/-) | (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.03215 | | 0.0429 | 0.0430 | 0.0636 | 0.0134 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 | |
| Uranium-235/236 | 0.0000 | U | 0.00572 | 0.00572 | 0.0457 | 0.0118 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 | |
| Uranium-238 | 0.007639 | U | 0.0253 | 0.0253 | 0.0635 | 0.0134 | pCi/g | 04/22/16 08:51 | 05/05/16 10:39 | 1 | |
| Tracer | MB | MB | %Yield | Qualifier | Limits | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
| Uranium-232 | 78.2 | | | | | | | | | | |

Lab Sample ID: LCS 160-247614/2-A

Matrix: Solid

Analysis Batch: 249654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247614

| Analyte | Spike | | LCS Result | LCS Qual | Total Uncert. (2σ+/-) | | MDC | DLC | Unit | %Rec | Limits |
|-----------------|-------|--------|---------------|-------------|-----------------------------|---------|---------|-------|------|----------|--------|
| | Added | Result | | | (2σ+/-) | (2σ+/-) | | | | | |
| Uranium-233/234 | | 6.37 | 6.350 | | 0.777 | 0.0767 | 0.0195 | pCi/g | 100 | 84 - 120 | |
| Uranium-238 | | 6.51 | 6.859 | | 0.822 | 0.0571 | 0.00974 | pCi/g | 105 | 82 - 122 | |
| Tracer | LCS | LCS | %Yield | Qualifier | Limits | MDC | DLC | Unit | %Rec | Limits | RER |
| Uranium-232 | 74.7 | | | | | | | | | | |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 249900

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 247614

| Analyte | Sample | | DU Result | DU Qual | Total Uncert. (2σ+/-) | | MDC | DLC | Unit | RER | Limit |
|-----------------|--------|------|--------------|------------|-----------------------------|---------|--------|-------|------|-------|-------|
| | Result | Qual | | | (2σ+/-) | (2σ+/-) | | | | | |
| Uranium-233/234 | 1.19 | | 1.108 | | 0.247 | 0.0795 | 0.0222 | pCi/g | | 0.16 | 1 |
| Uranium-235/236 | 0.0259 | | 0.006359 | U | 0.0306 | 0.0827 | 0.0195 | pCi/g | | 0.27 | 1 |
| Uranium-238 | 1.22 | | 1.244 | | 0.264 | 0.0828 | 0.0239 | pCi/g | | 0.05 | 1 |
| Tracer | DU | DU | %Yield | Qualifier | Limits | MDC | DLC | Unit | RER | Limit | RER |
| Uranium-232 | 84.7 | | | | | | | | | | |

Lab Sample ID: MB 160-248596/1-A

Matrix: Solid

Analysis Batch: 249670

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 248596

| Analyte | MB | | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|-----------------|-----------|-----------|-----------------------------|-----------------------------|---------|--------|-------|----------------|----------------|----------|---------|
| | Result | Qualifier | | (2σ+/-) | (2σ+/-) | | | | | | |
| Uranium-233/234 | 0.01551 | U | 0.0513 | 0.0514 | 0.129 | 0.0272 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 | |
| Uranium-235/236 | 0.02509 | | 0.0628 | 0.0629 | 0.141 | 0.0240 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 | |
| Uranium-238 | -0.004643 | U | 0.00929 | 0.00929 | 0.113 | 0.0192 | pCi/L | 04/29/16 09:32 | 05/05/16 10:47 | 1 | |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: MB 160-248596/1-A

Matrix: Solid

Analysis Batch: 249670

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 248596

| Tracer | MB | MB | %Yield | Qualifier | Limits |
|-------------|----|----|--------|-----------|----------|
| Uranium-232 | | | 78.0 | | 30 - 110 |

Prepared: 04/29/16 09:32 **Analyzed:** 05/05/16 10:47 **Dil Fac:** 1

Lab Sample ID: LCS 160-248596/2-A

Matrix: Solid

Analysis Batch: 249671

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 248596

| Analyte | Spike Added | LCS | | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec | %Rec. Limits |
|-----------------|-------------|--------|--------|-----------------------|----------|--------|-------|------|--------------|
| | | Result | Qual | | | | | | |
| Uranium-233/234 | 12.7 | 11.75 | | 1.42 | 0.101 | 0.0173 | pCi/L | 92 | 84 - 120 |
| Uranium-238 | 13.0 | 11.11 | | 1.36 | 0.0665 | 0.0172 | pCi/L | 85 | 83 - 121 |
| Tracer | LCSD | LCSD | %Yield | Qualifier | Limits | | | | |
| Uranium-232 | | | 91.4 | | 30 - 110 | | | | |

Lab Sample ID: LCSD 160-248596/3-A

Matrix: Solid

Analysis Batch: 249672

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 248596

| Analyte | Spike Added | LCSD | | Total Uncert. (2σ+/-) | MDC | DLC | Unit | %Rec | %Rec. Limits | RER | RER Limit |
|-----------------|-------------|--------|--------|-----------------------|----------|--------|-------|------|--------------|------|-----------|
| | | Result | Qual | | | | | | | | |
| Uranium-233/234 | 12.7 | 11.25 | | 1.40 | 0.220 | 0.0749 | pCi/L | 88 | 84 - 120 | 0.18 | 1 |
| Uranium-238 | 13.0 | 11.98 | | 1.46 | 0.106 | 0.0181 | pCi/L | 92 | 83 - 121 | 0.31 | 1 |
| Tracer | LCSD | LCSD | %Yield | Qualifier | Limits | | | | | | |
| Uranium-232 | | | 83.7 | | 30 - 110 | | | | | | |

Method: ST-RC-0211 - Lead-210 (LSC)

Lab Sample ID: MB 160-247407/1-A

Matrix: Solid

Analysis Batch: 248788

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247407

| Analyte | Result | MB | | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | MDC | DLC | Unit | Prepared | Analyzed | Dil Fac |
|------------|--------|----|--------|-----------------------|-----------------------|------|------|-------|----------------|----------------|---------|
| | | MB | MB | | | | | | | | |
| Lead-210 | -1.671 | U | | 1.32 | 1.33 | 2.32 | 1.13 | pCi/g | 04/22/16 09:17 | 04/29/16 19:48 | 1 |
| Carrier | MB | MB | %Yield | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| Pb Carrier | | | 88.0 | | 40 - 110 | | | | 04/22/16 09:17 | 04/29/16 19:48 | 1 |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: ST-RC-0211 - Lead-210 (LSC) (Continued)

Lab Sample ID: LCS 160-247407/2-A

Matrix: Solid

Analysis Batch: 248788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247407

| Analyte | Spike Added | LCS | | Total | | DLC | Unit | %Rec | %Rec. Limits |
|---------------------|----------------|--------|------|--------------------|------|------|-------|------|-----------------|
| | | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Lead-210 | 37.7 | 39.68 | | 4.19 | 2.28 | 1.11 | pCi/g | 105 | 70 - 130 |
| <i>Carrier</i> | | | | | | | | | |
| <i>Pb Carrier</i> | | | | | | | | | |
| LCS LCS | | | | | | | | | |
| %Yield Qualifier | | | | | | | | | |
| 40 - 110 | | | | | | | | | |

Lab Sample ID: 160-16964-1 DU

Matrix: Solid

Analysis Batch: 248788

Client Sample ID: AC-16 11-14

Prep Type: Total/NA

Prep Batch: 247407

| Analyte | Sample | | DU | | Total | | DLC | Unit | RER | RER Limit |
|---------------------|--------|------|--------|------|--------------------|------|------|-------|------|--------------|
| | Result | Qual | Result | Qual | Uncert. (2σ+/-) | MDC | | | | |
| Lead-210 | 0.299 | U | 0.5316 | U | 3.16 | 5.31 | 2.59 | pCi/g | 0.05 | 1 |
| <i>Carrier</i> | | | | | | | | | | |
| <i>Pb Carrier</i> | | | | | | | | | | |
| DU DU | | | | | | | | | | |
| %Yield Qualifier | | | | | | | | | | |
| 40 - 110 | | | | | | | | | | |

Lab Sample ID: MB 160-250211/1-A

Matrix: Solid

Analysis Batch: 251585

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250211

| Analyte | MB | | Count | | Total | | DLC | Unit | Prepared | Analyzed | Dil Fac |
|---------------------|---------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|----------|---------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | | | | | | |
| Lead-210 | -0.4907 | U | 1.19 | 1.19 | 2.03 | 0.991 | pCi/L | 05/09/16 17:09 | 05/16/16 18:37 | 1 | |
| <i>Carrier</i> | | | | | | | | | | | |
| <i>Pb Carrier</i> | | | | | | | | | | | |
| MB MB | | | | | | | | | | | |
| %Yield Qualifier | | | | | | | | | | | |
| 40 - 110 | | | | | | | | | | | |
| Prepared | | | | | | | | | | | |
| 05/09/16 17:09 | | | | | | | | | | | |
| Analyzed | | | | | | | | | | | |
| 05/16/16 18:37 | | | | | | | | | | | |
| Dil Fac | | | | | | | | | | | |
| 1 | | | | | | | | | | | |

Lab Sample ID: LCS 160-250211/2-A

Matrix: Solid

Analysis Batch: 251585

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250211

| Analyte | MB | | Count | | Total | | DLC | Unit | %Rec | %Rec. Limits | Dil Fac |
|---------------------|---------|-----------|--------------------|--------------------|-------|-------|-------|----------------|----------------|-----------------|---------|
| | Result | Qualifier | Uncert. (2σ+/-) | Uncert. (2σ+/-) | MDC | | | | | | |
| Lead-210 | -0.4907 | U | 1.19 | 1.19 | 2.03 | 0.991 | pCi/L | 05/09/16 17:09 | 05/16/16 18:37 | 1 | |
| <i>Carrier</i> | | | | | | | | | | | |
| <i>Pb Carrier</i> | | | | | | | | | | | |
| MB MB | | | | | | | | | | | |
| %Yield Qualifier | | | | | | | | | | | |
| 40 - 110 | | | | | | | | | | | |
| Prepared | | | | | | | | | | | |
| 05/09/16 17:09 | | | | | | | | | | | |
| Analyzed | | | | | | | | | | | |
| 05/16/16 18:37 | | | | | | | | | | | |
| Dil Fac | | | | | | | | | | | |
| 1 | | | | | | | | | | | |

Lab Sample ID: LCSD 160-250211/3-A

Matrix: Solid

Analysis Batch: 251585

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 250211

| Analyte | Spike | | LCSD | | Total | | DLC | Unit | %Rec | %Rec. Limits | RER | RER Limit |
|---------------------|-------|--------|------|--------------------|-------|-------|-------|------|----------|-----------------|-----|--------------|
| | Added | Result | Qual | Uncert. (2σ+/-) | MDC | | | | | | | |
| Lead-210 | 37.7 | 35.72 | | 3.75 | 2.02 | 0.985 | pCi/L | 95 | 70 - 130 | 0.20 | 1 | |
| <i>Carrier</i> | | | | | | | | | | | | |
| <i>Pb Carrier</i> | | | | | | | | | | | | |
| Spike LCSD | | | | | | | | | | | | |
| %Yield Qualifier | | | | | | | | | | | | |
| 40 - 110 | | | | | | | | | | | | |

TestAmerica St. Louis

QC Sample Results

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: ST-RC-0211 - Lead-210 (LSC) (Continued)

Lab Sample ID: LCSD 160-250211/3-A

Matrix: Solid

Analysis Batch: 251585

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 250211

| Carrier | LCSD | LCSD | |
|------------|--------|-----------|----------|
| | %Yield | Qualifier | Limits |
| Pb Carrier | 89.8 | | 40 - 110 |

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

HPLC/IC

Prep Batch: 249027

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------|-----------|--------|--------------|------------|
| 160-16964-1 - DL | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 1 |
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 2 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 3 |
| 160-16964-1 DU - DL | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 4 |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 5 |
| 160-16964-1 MS - DL | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | 6 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | DILeach_Prep | 7 |
| 160-16964-2 - DL | AC-16 11-14 DUP | Total/NA | Solid | DILeach_Prep | 8 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | DILeach_Prep | 9 |
| 160-16964-3 - DL | AC-15 29-30 | Total/NA | Solid | DILeach_Prep | 10 |
| 160-16964-4 - DL | AC-8 4-10 | Total/NA | Solid | DILeach_Prep | 11 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | DILeach_Prep | 12 |
| 160-16964-5 - DL | AC-21 20-24 | Total/NA | Solid | DILeach_Prep | 13 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-6 - DL | AC-13 4-6 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-7 - DL | AC-10 12-13 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-8 - DL | AC-16 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-9 - DL | AC-3 36-39 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-10 - DL | AC-1 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-11 - DL | AC-3 9-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 - DL | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 MS | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 MS - DL | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |
| LCS 160-249027/2-A | Lab Control Sample | Total/NA | Solid | DILeach_Prep | |
| MB 160-249027/1-A | Method Blank | Total/NA | Solid | DILeach_Prep | |

Analysis Batch: 250998

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-1 - DL | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-1 DU - DL | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-1 MS - DL | AC-16 11-14 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 9056A | 249027 |
| 160-16964-2 - DL | AC-16 11-14 DUP | Total/NA | Solid | 9056A | 249027 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-3 - DL | AC-15 29-30 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-4 - DL | AC-8 4-10 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-5 - DL | AC-21 20-24 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-6 - DL | AC-13 4-6 | Total/NA | Solid | 9056A | 249027 |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

HPLC/IC (Continued)

Analysis Batch: 250998 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-7 - DL | AC-10 12-13 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-8 - DL | AC-16 19-20 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-9 - DL | AC-3 36-39 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-10 - DL | AC-1 19-20 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-11 - DL | AC-3 9-10 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-12 - DL | AC-3 14-19 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-12 MS | AC-3 14-19 | Total/NA | Solid | 9056A | 249027 |
| 160-16964-12 MS - DL | AC-3 14-19 | Total/NA | Solid | 9056A | 249027 |
| LCS 160-249027/2-A | Lab Control Sample | Total/NA | Solid | 9056A | 249027 |
| MB 160-249027/1-A | Method Blank | Total/NA | Solid | 9056A | 249027 |

Metals

Prep Batch: 88083

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 3050B | |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | 3050B | |
| 160-16964-1 MSD | AC-16 11-14 | Total/NA | Solid | 3050B | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 3050B | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 3050B | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 3050B | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 3050B | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 3050B | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 3050B | |
| 160-16964-8 - DL | AC-16 19-20 | Total/NA | Solid | 3050B | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 3050B | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 3050B | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 3050B | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 3050B | |
| LCS 550-88083/2-A | Lab Control Sample | Total/NA | Solid | 3050B | |
| LCSD 550-88083/3-A | Lab Control Sample Dup | Total/NA | Solid | 3050B | |
| MB 550-88083/1-A | Method Blank | Total/NA | Solid | 3050B | |

Analysis Batch: 88264

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------|------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-1 MSD | AC-16 11-14 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 6010B | 88083 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 6010B | 88083 |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Metals (Continued)

Analysis Batch: 88264 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 6010B | 88083 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 6010B | 88083 |
| LCS 550-88083/2-A | Lab Control Sample | Total/NA | Solid | 6010B | 88083 |
| LCSD 550-88083/3-A | Lab Control Sample Dup | Total/NA | Solid | 6010B | 88083 |
| MB 550-88083/1-A | Method Blank | Total/NA | Solid | 6010B | 88083 |

Analysis Batch: 88456

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| 160-16964-8 - DL | AC-16 19-20 | Total/NA | Solid | 6010B | 88083 |

Analysis Batch: 89342

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 6010B | 88083 |

Prep Batch: 246054

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 7471B | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 7471B | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 7471B | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 7471B | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 7471B | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 7471B | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 7471B | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 7471B | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 7471B | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 7471B | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 7471B | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 7471B | |
| LCSSRM 160-246054/2-A | Lab Control Sample | Total/NA | Solid | 7471B | |
| MB 160-246054/1-A | Method Blank | Total/NA | Solid | 7471B | |

Prep Batch: 246810

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 3050B | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 3050B | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 3050B | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 3050B | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 3050B | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 3050B | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 3050B | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 3050B | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 3050B | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 3050B | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 3050B | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 3050B | |
| 160-16964-12 MS | AC-3 14-19 | Total/NA | Solid | 3050B | |
| 160-16964-12 MSD | AC-3 14-19 | Total/NA | Solid | 3050B | |
| LCS 160-246810/3-A | Lab Control Sample | Total/NA | Solid | 3050B | |
| LCSSRM 160-246810/2-A | Lab Control Sample | Total/NA | Solid | 3050B | |
| MB 160-246810/1-A | Method Blank | Total/NA | Solid | 3050B | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Leach Batch: 246819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | 1311 | |
| 160-16964-1 MS | AC-16 11-14 | TCLP | Solid | 1311 | |
| 160-16964-1 MSD | AC-16 11-14 | TCLP | Solid | 1311 | |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | 1311 | |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | 1311 | |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | 1311 | |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | 1311 | |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | 1311 | |
| LB 160-246819/1-B | Method Blank | TCLP | Solid | 1311 | |

Leach Batch: 246906

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-----------|--------|--------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | 1311 | |
| 160-16964-7 MS | AC-10 12-13 | TCLP | Solid | 1311 | |
| 160-16964-7 MSD | AC-10 12-13 | TCLP | Solid | 1311 | |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | 1311 | |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | 1311 | |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | 1311 | |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | 1311 | |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | 1311 | |
| LB 160-246906/1-B | Method Blank | TCLP | Solid | 1311 | |

Analysis Batch: 247100

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 7471B | 246054 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 7471B | 246054 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 7471B | 246054 |
| LCSSRM 160-246054/2-A | Lab Control Sample | Total/NA | Solid | 7471B | 246054 |
| MB 160-246054/1-A | Method Blank | Total/NA | Solid | 7471B | 246054 |

Prep Batch: 247945

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | 3010A | 246819 |
| 160-16964-1 MS | AC-16 11-14 | TCLP | Solid | 3010A | 246819 |
| 160-16964-1 MSD | AC-16 11-14 | TCLP | Solid | 3010A | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | 3010A | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | 3010A | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | 3010A | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | 3010A | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | 3010A | 246819 |
| LB 160-246819/1-B | Method Blank | TCLP | Solid | 3010A | 246819 |
| LCS 160-247945/2-A | Lab Control Sample | Total/NA | Solid | 3010A | 246819 |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Metals (Continued)

Prep Batch: 247954

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | 3010A | 246906 |
| 160-16964-7 MS | AC-10 12-13 | TCLP | Solid | 3010A | 246906 |
| 160-16964-7 MSD | AC-10 12-13 | TCLP | Solid | 3010A | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | 3010A | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | 3010A | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | 3010A | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | 3010A | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | 3010A | 246906 |
| LB 160-246906/1-B | Method Blank | TCLP | Solid | 3010A | 246906 |
| LCS 160-247954/2-A | Lab Control Sample | Total/NA | Solid | 3010A | 246906 |

Analysis Batch: 250405

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 6020A | 246810 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 MS | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 MSD | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| LCSSRM 160-246810/2-A | Lab Control Sample | Total/NA | Solid | 6020A | 246810 |
| MB 160-246810/1-A | Method Blank | Total/NA | Solid | 6020A | 246810 |

Analysis Batch: 250727

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 6020A | 246810 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 MS | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| 160-16964-12 MSD | AC-3 14-19 | Total/NA | Solid | 6020A | 246810 |
| LCS 160-246810/3-A | Lab Control Sample | Total/NA | Solid | 6020A | 246810 |
| MB 160-246810/1-A | Method Blank | Total/NA | Solid | 6020A | 246810 |

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Metals (Continued)

Analysis Batch: 250735

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 6020A | 246810 |

Analysis Batch: 251001

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | 6010C | 247945 |
| 160-16964-1 MS | AC-16 11-14 | TCLP | Solid | 6010C | 247945 |
| 160-16964-1 MSD | AC-16 11-14 | TCLP | Solid | 6010C | 247945 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | 6010C | 247945 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | 6010C | 247945 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | 6010C | 247945 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | 6010C | 247945 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | 6010C | 247945 |
| LB 160-246819/1-B | Method Blank | TCLP | Solid | 6010C | 247945 |
| LCS 160-247945/2-A | Lab Control Sample | Total/NA | Solid | 6010C | 247945 |

Analysis Batch: 252009

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | 6010C | 247954 |
| 160-16964-7 MS | AC-10 12-13 | TCLP | Solid | 6010C | 247954 |
| 160-16964-7 MSD | AC-10 12-13 | TCLP | Solid | 6010C | 247954 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | 6010C | 247954 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | 6010C | 247954 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | 6010C | 247954 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | 6010C | 247954 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | 6010C | 247954 |
| LB 160-246906/1-B | Method Blank | TCLP | Solid | 6010C | 247954 |
| LCS 160-247954/2-A | Lab Control Sample | Total/NA | Solid | 6010C | 247954 |

General Chemistry

Analysis Batch: 246485

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | Moisture | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | Moisture | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | Moisture | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | Moisture | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | Moisture | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | Moisture | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | Moisture | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | Moisture | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | Moisture | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | Moisture | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | Moisture | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | Moisture | |

Prep Batch: 246988

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------|------------------|-----------|--------|--------------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | DILeach_Prep | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

General Chemistry (Continued)

Prep Batch: 246988 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------------|------------|
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |

Analysis Batch: 247194

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 9045D | 246988 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 9045D | 246988 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 9045D | 246988 |
| LCS 160-247194/5 | Lab Control Sample | Total/NA | Solid | 9045D | |

Prep Batch: 247987

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------|-----------|--------|--------------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | DILeach_Prep | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | DILeach_Prep | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | DILeach_Prep | |
| HLCS 160-247987/3-A | Lab Control Sample | Total/NA | Solid | DILeach_Prep | |
| LCS 160-247987/2-A | Lab Control Sample | Total/NA | Solid | DILeach_Prep | |
| MB 160-247987/1-A | Method Blank | Total/NA | Solid | DILeach_Prep | |

Analysis Batch: 248477

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | 310.1 | 247987 |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

General Chemistry (Continued)

Analysis Batch: 248477 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-1 MS | AC-16 11-14 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | 310.1 | 247987 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | 310.1 | 247987 |
| HLCS 160-247987/3-A | Lab Control Sample | Total/NA | Solid | 310.1 | 247987 |
| LCS 160-247987/2-A | Lab Control Sample | Total/NA | Solid | 310.1 | 247987 |
| MB 160-247987/1-A | Method Blank | Total/NA | Solid | 310.1 | 247987 |

Rad

Leach Batch: 246402

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------|------------------|-----------|--------|---------------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | Dry and Grind | |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | Dry and Grind | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | Dry and Grind | |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | Dry and Grind | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | Dry and Grind | |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | Dry and Grind | |
| 160-16964-5 DU | AC-21 20-24 | Total/NA | Solid | Dry and Grind | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | Dry and Grind | |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | Dry and Grind | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | Dry and Grind | |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | Dry and Grind | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | Dry and Grind | |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | Dry and Grind | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | Dry and Grind | |

Leach Batch: 246819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------|------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | 1311 | |
| 160-16964-1 DU | AC-16 11-14 | TCLP | Solid | 1311 | |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | 1311 | |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | 1311 | |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | 1311 | |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | 1311 | |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | 1311 | |

Prep Batch: 246848

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------|------------------|-----------|--------|------------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | Fill_Geo-0 | 246402 |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Rad (Continued)

Prep Batch: 246848 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|------------|------------|
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | Fill_Geo-0 | 246402 |
| LCS 160-246848/2-A | Lab Control Sample | Total/NA | Solid | Fill_Geo-0 | |
| MB 160-246848/1-A | Method Blank | Total/NA | Solid | Fill_Geo-0 | |

Prep Batch: 246855

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-5 DU | AC-21 20-24 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | DPS-21 | 246402 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | DPS-21 | 246402 |
| LCS 160-246855/2-A | Lab Control Sample | Total/NA | Solid | DPS-21 | |
| MB 160-246855/1-A | Method Blank | Total/NA | Solid | DPS-21 | |

Prep Batch: 246863

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-5 DU | AC-21 20-24 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | DPS-0 | 246402 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | DPS-0 | 246402 |
| LCS 160-246863/2-A | Lab Control Sample | Total/NA | Solid | DPS-0 | |
| MB 160-246863/1-A | Method Blank | Total/NA | Solid | DPS-0 | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Rad (Continued)

Leach Batch: 246906

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | 1311 | |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | 1311 | |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | 1311 | |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | 1311 | |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | 1311 | |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | 1311 | |

Prep Batch: 247175

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|------------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | PrecSep-21 | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | PrecSep-21 | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | PrecSep-21 | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | PrecSep-21 | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | PrecSep-21 | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | PrecSep-21 | 246819 |
| LCS 160-247175/2-A | Lab Control Sample | Total/NA | Solid | PrecSep-21 | |
| LCSD 160-247175/3-A | Lab Control Sample Dup | Total/NA | Solid | PrecSep-21 | |
| MB 160-247175/1-A | Method Blank | Total/NA | Solid | PrecSep-21 | |

Prep Batch: 247177

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | PrecSep_0 | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | PrecSep_0 | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | PrecSep_0 | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | PrecSep_0 | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | PrecSep_0 | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | PrecSep_0 | 246819 |
| LCS 160-247177/2-A | Lab Control Sample | Total/NA | Solid | PrecSep_0 | |
| LCSD 160-247177/3-A | Lab Control Sample Dup | Total/NA | Solid | PrecSep_0 | |
| MB 160-247177/1-A | Method Blank | Total/NA | Solid | PrecSep_0 | |

Prep Batch: 247319

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | ExtChrom | 246402 |
| LCS 160-247319/2-A | Lab Control Sample | Total/NA | Solid | ExtChrom | |
| MB 160-247319/1-A | Method Blank | Total/NA | Solid | ExtChrom | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Rad (Continued)

Prep Batch: 247407

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|---------------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | Ext_Chrom_LSC | 5 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | Ext_Chrom_LSC | 6 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | Ext_Chrom_LSC | 7 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | Ext_Chrom_LSC | 8 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | Ext_Chrom_LSC | 9 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | Ext_Chrom_LSC | 10 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | Ext_Chrom_LSC | |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | Ext_Chrom_LSC | |
| LCS 160-247407/2-A | Lab Control Sample | Total/NA | Solid | Ext_Chrom_LSC | 11 |
| MB 160-247407/1-A | Method Blank | Total/NA | Solid | Ext_Chrom_LSC | |

Prep Batch: 247468

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|------------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-1 DU | AC-16 11-14 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | Fill_Geo-0 | 246819 |
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | Fill_Geo-0 | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | Fill_Geo-0 | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | Fill_Geo-0 | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | Fill_Geo-0 | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | Fill_Geo-0 | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | Fill_Geo-0 | 246906 |
| LCS 160-247468/2-A | Lab Control Sample | Total/NA | Solid | Fill_Geo-0 | |
| MB 160-247468/1-A | Method Blank | Total/NA | Solid | Fill_Geo-0 | |

Prep Batch: 247614

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------|------------|
| 160-16964-1 | AC-16 11-14 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-1 DU | AC-16 11-14 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-2 | AC-16 11-14 DUP | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-3 | AC-15 29-30 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-4 | AC-8 4-10 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-5 | AC-21 20-24 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-6 | AC-13 4-6 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-7 | AC-10 12-13 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-8 | AC-16 19-20 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-9 | AC-3 36-39 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-10 | AC-1 19-20 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-11 | AC-3 9-10 | Total/NA | Solid | ExtChrom | 246402 |
| 160-16964-12 | AC-3 14-19 | Total/NA | Solid | ExtChrom | 246402 |
| LCS 160-247614/2-A | Lab Control Sample | Total/NA | Solid | ExtChrom | |
| MB 160-247614/1-A | Method Blank | Total/NA | Solid | ExtChrom | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Prep Batch: 247638

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|------------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | PrecSep-21 | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | PrecSep-21 | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | PrecSep-21 | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | PrecSep-21 | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | PrecSep-21 | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | PrecSep-21 | 246906 |
| LCS 160-247638/2-A | Lab Control Sample | Total/NA | Solid | PrecSep-21 | |
| MB 160-247638/1-A | Method Blank | Total/NA | Solid | PrecSep-21 | |

Prep Batch: 247641

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|-----------|------------|
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | PrecSep_0 | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | PrecSep_0 | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | PrecSep_0 | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | PrecSep_0 | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | PrecSep_0 | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | PrecSep_0 | 246906 |
| LCS 160-247641/2-A | Lab Control Sample | Total/NA | Solid | PrecSep_0 | |
| MB 160-247641/1-A | Method Blank | Total/NA | Solid | PrecSep_0 | |

Prep Batch: 248577

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | ExtChrom | 246906 |
| LCS 160-248577/2-A | Lab Control Sample | Total/NA | Solid | ExtChrom | |
| LCSD 160-248577/3-A | Lab Control Sample Dup | Total/NA | Solid | ExtChrom | |
| MB 160-248577/1-A | Method Blank | Total/NA | Solid | ExtChrom | |

Prep Batch: 248596

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | ExtChrom | 246819 |
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | ExtChrom | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | ExtChrom | 246906 |
| LCS 160-248596/2-A | Lab Control Sample | Total/NA | Solid | ExtChrom | |

TestAmerica St. Louis

QC Association Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Rad (Continued)

Prep Batch: 248596 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| LCSD 160-248596/3-A | Lab Control Sample Dup | Total/NA | Solid | ExtChrom | |
| MB 160-248596/1-A | Method Blank | Total/NA | Solid | ExtChrom | |

Prep Batch: 250211

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|---------------|------------|
| 160-16964-1 | AC-16 11-14 | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-2 | AC-16 11-14 DUP | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-3 | AC-15 29-30 | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-4 | AC-8 4-10 | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-5 | AC-21 20-24 | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-6 | AC-13 4-6 | TCLP | Solid | Ext_Chrom_LSC | 246819 |
| 160-16964-7 | AC-10 12-13 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| 160-16964-8 | AC-16 19-20 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| 160-16964-9 | AC-3 36-39 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| 160-16964-10 | AC-1 19-20 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| 160-16964-11 | AC-3 9-10 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| 160-16964-12 | AC-3 14-19 | TCLP | Solid | Ext_Chrom_LSC | 246906 |
| LCS 160-250211/2-A | Lab Control Sample | Total/NA | Solid | Ext_Chrom_LSC | |
| LCSD 160-250211/3-A | Lab Control Sample Dup | Total/NA | Solid | Ext_Chrom_LSC | |
| MB 160-250211/1-A | Method Blank | Total/NA | Solid | Ext_Chrom_LSC | |

Tracer/Carrier Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Solid

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | Ba (40-110) |
|---------------------|------------------------|----------------|
| 160-16964-1 | AC-16 11-14 | 102 |
| 160-16964-2 | AC-16 11-14 DUP | 93.5 |
| 160-16964-3 | AC-15 29-30 | 94.1 |
| 160-16964-4 | AC-8 4-10 | 94.3 |
| 160-16964-5 | AC-21 20-24 | 91.5 |
| 160-16964-5 DU | AC-21 20-24 | 91.0 |
| 160-16964-6 | AC-13 4-6 | 92.1 |
| 160-16964-7 | AC-10 12-13 | 91.8 |
| 160-16964-8 | AC-16 19-20 | 110 |
| 160-16964-9 | AC-3 36-39 | 68.6 |
| 160-16964-10 | AC-1 19-20 | 99.9 |
| 160-16964-11 | AC-3 9-10 | 122 X |
| 160-16964-12 | AC-3 14-19 | 83.8 |
| LCS 160-246855/2-A | Lab Control Sample | 82.6 |
| LCS 160-247175/2-A | Lab Control Sample | 94.0 |
| LCS 160-247638/2-A | Lab Control Sample | 79.5 |
| LCSD 160-247175/3-A | Lab Control Sample Dup | 92.6 |
| MB 160-246855/1-A | Method Blank | 86.3 |
| MB 160-247175/1-A | Method Blank | 94.0 |
| MB 160-247638/1-A | Method Blank | 76.1 |

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Solid

Prep Type: TCLP

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | Ba (40-110) |
|---------------|------------------|----------------|
| 160-16964-1 | AC-16 11-14 | 65.5 |
| 160-16964-2 | AC-16 11-14 DUP | 74.9 |
| 160-16964-3 | AC-15 29-30 | 54.1 |
| 160-16964-4 | AC-8 4-10 | 75.2 |
| 160-16964-5 | AC-21 20-24 | 77.2 |
| 160-16964-6 | AC-13 4-6 | 69.2 |
| 160-16964-7 | AC-10 12-13 | 56.4 |
| 160-16964-8 | AC-16 19-20 | 67.5 |
| 160-16964-9 | AC-3 36-39 | 51.0 |
| 160-16964-10 | AC-1 19-20 | 53.8 |
| 160-16964-11 | AC-3 9-10 | 67.0 |
| 160-16964-12 | AC-3 14-19 | 50.7 |

Tracer/Carrier Legend

Ba = Ba Carrier

TestAmerica St. Louis

Tracer/Carrier Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Percent Yield (Acceptance Limits) | |
|---------------------|------------------------|-----------------------------------|---------------|
| | | Ba (40-110) | Y (40-110) |
| 160-16964-1 | AC-16 11-14 | 102 | 89.3 |
| 160-16964-2 | AC-16 11-14 DUP | 93.5 | 88.6 |
| 160-16964-3 | AC-15 29-30 | 94.1 | 87.9 |
| 160-16964-4 | AC-8 4-10 | 94.3 | 89.3 |
| 160-16964-5 | AC-21 20-24 | 91.5 | 93.1 |
| 160-16964-5 DU | AC-21 20-24 | 91.0 | 91.2 |
| 160-16964-6 | AC-13 4-6 | 92.1 | 90.8 |
| 160-16964-7 | AC-10 12-13 | 91.8 | 90.8 |
| 160-16964-8 | AC-16 19-20 | 110 | 92.0 |
| 160-16964-9 | AC-3 36-39 | 68.6 | 93.1 |
| 160-16964-10 | AC-1 19-20 | 99.9 | 87.9 |
| 160-16964-11 | AC-3 9-10 | 122 X | 89.3 |
| 160-16964-12 | AC-3 14-19 | 83.8 | 89.0 |
| LCS 160-246863/2-A | Lab Control Sample | 82.6 | 90.1 |
| LCS 160-247177/2-A | Lab Control Sample | 94.0 | 90.1 |
| LCS 160-247641/2-A | Lab Control Sample | 79.5 | 88.6 |
| LCSD 160-247177/3-A | Lab Control Sample Dup | 92.6 | 92.7 |
| MB 160-246863/1-A | Method Blank | 86.3 | 91.6 |
| MB 160-247177/1-A | Method Blank | 94.0 | 91.6 |
| MB 160-247641/1-A | Method Blank | 76.1 | 86.0 |

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Solid

Prep Type: TCLP

| Lab Sample ID | Client Sample ID | Percent Yield (Acceptance Limits) | |
|---------------|------------------|-----------------------------------|---------------|
| | | Ba (40-110) | Y (40-110) |
| 160-16964-1 | AC-16 11-14 | 65.5 | 92.3 |
| 160-16964-2 | AC-16 11-14 DUP | 74.9 | 95.3 |
| 160-16964-3 | AC-15 29-30 | 54.1 | 96.1 |
| 160-16964-4 | AC-8 4-10 | 75.2 | 91.6 |
| 160-16964-5 | AC-21 20-24 | 77.2 | 91.6 |
| 160-16964-6 | AC-13 4-6 | 69.2 | 90.5 |
| 160-16964-7 | AC-10 12-13 | 56.4 | 88.2 |
| 160-16964-8 | AC-16 19-20 | 67.5 | 92.0 |
| 160-16964-9 | AC-3 36-39 | 51.0 | 88.2 |
| 160-16964-10 | AC-1 19-20 | 53.8 | 89.0 |
| 160-16964-11 | AC-3 9-10 | 67.0 | 89.0 |
| 160-16964-12 | AC-3 14-19 | 50.7 | 89.3 |

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica St. Louis

Tracer/Carrier Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Matrix: Solid

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | Th-229 (30-110) | Percent Yield (Acceptance Limits) |
|---------------------|------------------------|--------------------|-----------------------------------|
| 160-16964-1 | AC-16 11-14 | 100 | ----- |
| 160-16964-1 DU | AC-16 11-14 | 89.2 | ----- |
| 160-16964-2 | AC-16 11-14 DUP | 93.7 | ----- |
| 160-16964-3 | AC-15 29-30 | 101 | ----- |
| 160-16964-4 | AC-8 4-10 | 88.4 | ----- |
| 160-16964-5 | AC-21 20-24 | 97.4 | ----- |
| 160-16964-6 | AC-13 4-6 | 78.1 | ----- |
| 160-16964-7 | AC-10 12-13 | 96.7 | ----- |
| 160-16964-8 | AC-16 19-20 | 86.7 | ----- |
| 160-16964-9 | AC-3 36-39 | 86.3 | ----- |
| 160-16964-10 | AC-1 19-20 | 99.0 | ----- |
| 160-16964-11 | AC-3 9-10 | 90.1 | ----- |
| 160-16964-12 | AC-3 14-19 | 99.1 | ----- |
| LCS 160-247319/2-A | Lab Control Sample | 93.1 | ----- |
| LCS 160-248577/2-A | Lab Control Sample | 91.1 | ----- |
| LCSD 160-248577/3-A | Lab Control Sample Dup | 90.7 | ----- |
| MB 160-247319/1-A | Method Blank | 87.7 | ----- |
| MB 160-248577/1-A | Method Blank | 86.7 | ----- |

Tracer/Carrier Legend

Th-229 = Thorium-229

Method: A-01-R - Isotopic Thorium (Alpha Spectrometry)

Matrix: Solid

Prep Type: TCLP

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | Th-229 (30-110) | Percent Yield (Acceptance Limits) |
|---------------|------------------|--------------------|-----------------------------------|
| 160-16964-1 | AC-16 11-14 | 82.7 | ----- |
| 160-16964-2 | AC-16 11-14 DUP | 82.3 | ----- |
| 160-16964-3 | AC-15 29-30 | 92.9 | ----- |
| 160-16964-4 | AC-8 4-10 | 98.6 | ----- |
| 160-16964-5 | AC-21 20-24 | 91.5 | ----- |
| 160-16964-6 | AC-13 4-6 | 92.2 | ----- |
| 160-16964-7 | AC-10 12-13 | 99.8 | ----- |
| 160-16964-8 | AC-16 19-20 | 91.7 | ----- |
| 160-16964-9 | AC-3 36-39 | 91.8 | ----- |
| 160-16964-10 | AC-1 19-20 | 84.9 | ----- |
| 160-16964-11 | AC-3 9-10 | 84.8 | ----- |
| 160-16964-12 | AC-3 14-19 | 90.9 | ----- |

Tracer/Carrier Legend

Th-229 = Thorium-229

TestAmerica St. Louis

Tracer/Carrier Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Solid

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | U-232 (30-110) |
|---------------------|------------------------|-------------------|
| 160-16964-1 | AC-16 11-14 | 90.8 |
| 160-16964-1 DU | AC-16 11-14 | 84.7 |
| 160-16964-2 | AC-16 11-14 DUP | 85.1 |
| 160-16964-3 | AC-15 29-30 | 76.1 |
| 160-16964-4 | AC-8 4-10 | 84.2 |
| 160-16964-5 | AC-21 20-24 | 36.3 |
| 160-16964-6 | AC-13 4-6 | 80.3 |
| 160-16964-7 | AC-10 12-13 | 83.6 |
| 160-16964-8 | AC-16 19-20 | 34.1 |
| 160-16964-9 | AC-3 36-39 | 79.6 |
| 160-16964-10 | AC-1 19-20 | 82.0 |
| 160-16964-11 | AC-3 9-10 | 87.6 |
| 160-16964-12 | AC-3 14-19 | 84.3 |
| LCS 160-247614/2-A | Lab Control Sample | 74.7 |
| LCS 160-248596/2-A | Lab Control Sample | 91.4 |
| LCSD 160-248596/3-A | Lab Control Sample Dup | 83.7 |
| MB 160-247614/1-A | Method Blank | 78.2 |
| MB 160-248596/1-A | Method Blank | 78.0 |

Tracer/Carrier Legend

U-232 = Uranium-232

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Solid

Prep Type: TCLP

Percent Yield (Acceptance Limits)

| Lab Sample ID | Client Sample ID | U-232 (30-110) |
|---------------|------------------|-------------------|
| 160-16964-1 | AC-16 11-14 | 87.7 |
| 160-16964-2 | AC-16 11-14 DUP | 83.6 |
| 160-16964-3 | AC-15 29-30 | 71.0 |
| 160-16964-4 | AC-8 4-10 | 70.1 |
| 160-16964-5 | AC-21 20-24 | 11.8 X |
| 160-16964-6 | AC-13 4-6 | 65.5 |
| 160-16964-7 | AC-10 12-13 | 79.5 |
| 160-16964-8 | AC-16 19-20 | 21.9 X |
| 160-16964-9 | AC-3 36-39 | 81.2 |
| 160-16964-10 | AC-1 19-20 | 74.9 |
| 160-16964-11 | AC-3 9-10 | 75.6 |
| 160-16964-12 | AC-3 14-19 | 89.4 |

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica St. Louis

Tracer/Carrier Summary

Client: Engineering Management Support, Inc.

Project/Site: Westlake Landfill Phase 1D Investigation

TestAmerica Job ID: 160-16964-1

Method: ST-RC-0211 - Lead-210 (LSC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Pb (40-110) | Percent Yield (Acceptance Limits) | | | | | | | | | |
|---------------------|------------------------|----------------|-----------------------------------|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | |
| 160-16964-1 | AC-16 11-14 | 72.0 | | | | | | | | | | |
| 160-16964-1 DU | AC-16 11-14 | 38.7 X | | | | | | | | | | |
| 160-16964-2 | AC-16 11-14 DUP | 75.0 | | | | | | | | | | |
| 160-16964-3 | AC-15 29-30 | 66.8 | | | | | | | | | | |
| 160-16964-4 | AC-8 4-10 | 82.5 | | | | | | | | | | |
| 160-16964-5 | AC-21 20-24 | 71.6 | | | | | | | | | | |
| 160-16964-6 | AC-13 4-6 | 70.9 | | | | | | | | | | |
| 160-16964-7 | AC-10 12-13 | 67.7 | | | | | | | | | | |
| 160-16964-8 | AC-16 19-20 | 67.6 | | | | | | | | | | |
| 160-16964-9 | AC-3 36-39 | 34.8 X | | | | | | | | | | |
| 160-16964-10 | AC-1 19-20 | 66.8 | | | | | | | | | | |
| 160-16964-11 | AC-3 9-10 | 69.3 | | | | | | | | | | |
| 160-16964-12 | AC-3 14-19 | 74.7 | | | | | | | | | | |
| LCS 160-247407/2-A | Lab Control Sample | 89.4 | | | | | | | | | | |
| LCS 160-250211/2-A | Lab Control Sample | 87.7 | | | | | | | | | | |
| LCSD 160-250211/3-A | Lab Control Sample Dup | 89.8 | | | | | | | | | | |
| MB 160-247407/1-A | Method Blank | 88.0 | | | | | | | | | | |
| MB 160-250211/1-A | Method Blank | 89.1 | | | | | | | | | | |

Tracer/Carrier Legend

Pb = Pb Carrier

Method: ST-RC-0211 - Lead-210 (LSC)

Matrix: Solid

Prep Type: TCLP

| Lab Sample ID | Client Sample ID | Pb (40-110) | Percent Yield (Acceptance Limits) | | | | | | | | | |
|---------------|------------------|----------------|-----------------------------------|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | |
| 160-16964-1 | AC-16 11-14 | 84.7 | | | | | | | | | | |
| 160-16964-2 | AC-16 11-14 DUP | 85.3 | | | | | | | | | | |
| 160-16964-3 | AC-15 29-30 | 87.7 | | | | | | | | | | |
| 160-16964-4 | AC-8 4-10 | 83.7 | | | | | | | | | | |
| 160-16964-5 | AC-21 20-24 | 83.7 | | | | | | | | | | |
| 160-16964-6 | AC-13 4-6 | 86.7 | | | | | | | | | | |
| 160-16964-7 | AC-10 12-13 | 88.3 | | | | | | | | | | |
| 160-16964-8 | AC-16 19-20 | 87.0 | | | | | | | | | | |
| 160-16964-9 | AC-3 36-39 | 88.7 | | | | | | | | | | |
| 160-16964-10 | AC-1 19-20 | 80.7 | | | | | | | | | | |
| 160-16964-11 | AC-3 9-10 | 84.3 | | | | | | | | | | |
| 160-16964-12 | AC-3 14-19 | 79.3 | | | | | | | | | | |

Tracer/Carrier Legend

Pb = Pb Carrier

TestAmerica St. Louis